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United States
Department of
Agriculture

Forest Service

Pacific
Northwest
Region

1992

Monitoring Report

for the Land and Resource Management Plan

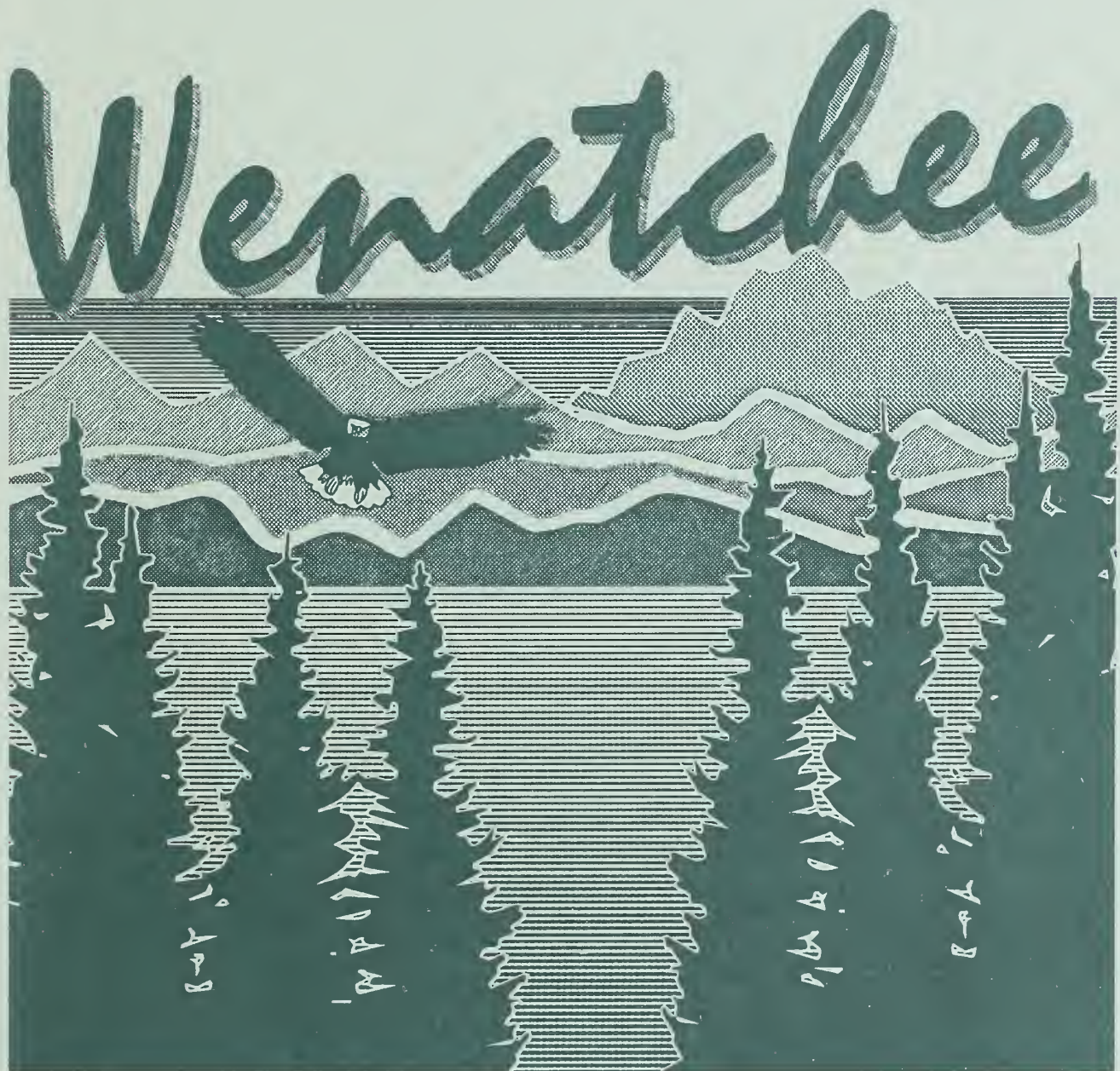
Fiscal Year 1991

Wenatchee National Forest

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NATIONAL FOREST

WENATCHEE NATIONAL FOREST

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NATIONAL FOREST



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Dear Forest User,

Date: May 1, 1992

The Wenatchee Forest Plan is two years old. It has established general direction for all resource management activities on the forest. It provides for forest protection and coordinated multiple-use management of outdoor recreation, range, timber, watershed, wildlife and fish, minerals, and Wilderness. Its overall purpose is the sustained production of goods and services for the benefit of the American people.

Monitoring is a key part of Forest Plan implementation. This report summarizes and highlights Forest Service monitoring activities for fiscal year 1991 (October 1, 1990 to September 30, 1991). This is our second Forest Plan monitoring and evaluation report, covering a full year. Last year's report covered a six-month reporting period.

As Wenatchee Forest Supervisor, I am responsible for ensuring that all forest management activities comply with the Forest Plan forest-wide standards and guidelines and management area prescriptions. The monitoring and evaluation program tells us how good a job we are doing in implementing the promises made in the plan. It will also tell us whether the various standards and guidelines established by the plan are realistic and achievable. At the same time, it will determine whether the standards are adequate to protect forest resources. It also identifies changes needed in the Forest Plan.

To keep you informed, I have prepared this annual "Monitoring Report" which describes progress made in implementing the Forest Plan as reflected by monitoring and evaluation. It will be several years before monitoring gives us a complete picture of Forest Plan results.

If you have questions, concerns, or comments regarding information in this report, a postage-paid response form is enclosed for your convenience. The response form also asks your thoughts about proposed forest plan amendments and possible projects which would help implement the plan. Inside the cover of this document are the addresses of our Ranger Districts and Supervisor's Office. I hope you will continue to be involved with the management of your Wenatchee National Forest.

Sincerely,

Sonny J. O'Neal
Forest Supervisor

FISCAL YEAR
1991

MONITORING REPORT

LAND AND RESOURCE MANAGEMENT PLAN

**WENATCHEE
NATIONAL FOREST**

W A S H I N G T O N

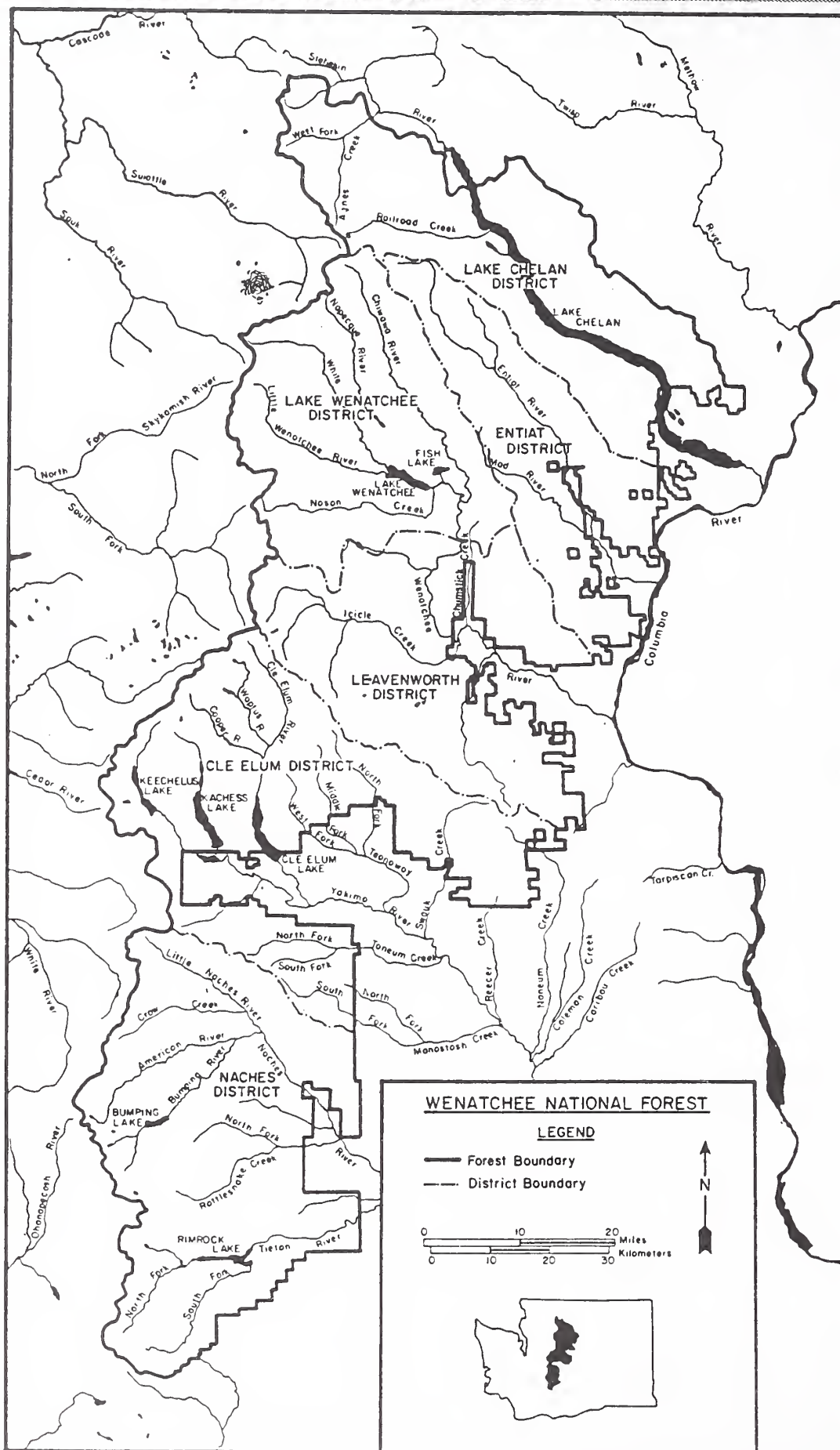


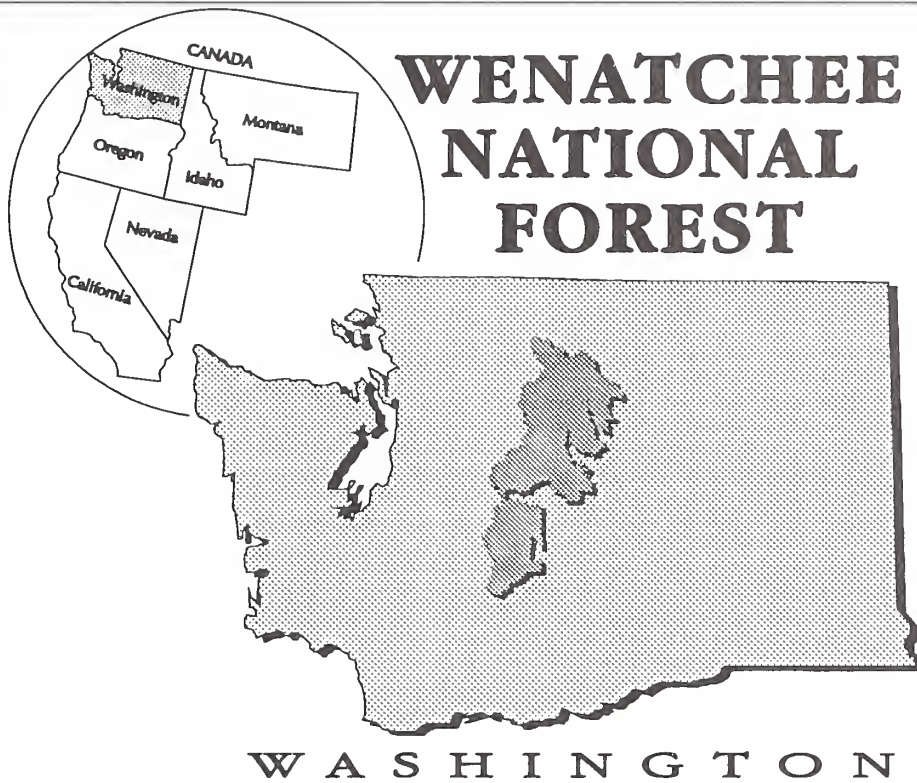
M A Y 1992

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WENATCHEE NATIONAL FOREST





INTRODUCTION

The year 1991 was a year of new and challenging projects for the more than 350 Forest Service employees of the Wenatchee National Forest. It was a year of changing priorities, new emphasis, and new concerns.

It was a year that saw a major \$1.3 million repair of extensive flood damage to roads, bridges, trailheads, and recreation facilities. Much of the work was done by private contractors under supervision of specially assembled Forest Service supervisory teams. Most of this work took place on the Lake Wenatchee, Cle Elum, Leavenworth, and Naches Ranger Districts. The damage was

caused by 100-year intensity floods that occurred in November, 1990, as a result of heavy rains in some of the most remote areas of the forest.

Despite a forest fire season which extended well into October, fires only burned across 1,000 acres. The season's largest fire was an 840-acre human caused blaze which occurred on the north shore of Lake Chelan in October.

Recreation use continued to increase forest-wide. The 6-million visitor days of recreation recorded represented about a 20 per cent increase in use above the previous year. This secures the Wenatchee Forest position as one of the most heavily visited national forests in the United States.

A several year trend of increasing programs in fisheries and wildlife also continued in 1991. Emphasis was placed on habitat inventories, biological evaluations of the potential effects of projects on wildlife and fisheries, and on habitat improvement projects. A Wenatchee River Salmon Festival sponsored jointly by the Forest Service and the Fish & Wildlife Service at Leavenworth attracted more than 8,000 people for its four-day run. The festival attracted a number of civic and commercial sponsors and used a variety of displays, events, and activities to educate visitors about river ecosystems and fisheries management objectives.

Special emphasis was also given to inventory of unique plant species as part of a program to insure the protection of such species and increase their numbers where possible.

About 135 million board feet of timber was harvested forest-wide in 1991. This is a result of sales offered in previous years, and the amount is close to the harvest scheduled by the Forest Plan. However, only about 19 million board feet of new sales were sold last year, largely as a result of the decision that timber would not be harvested within spotted owl habitat. It is not yet known how much timber can be harvested within owl habitat in the future, however, greatly reduced timber harvest levels are expected in coming years. Approximately 2 million seedling trees were planted forest-wide in areas where timber has been cut or where wildfires have killed trees. A large variety of tree species are being planted to mimic the natural diversity of Wenatchee Forest stands.

Most work was completed on a \$3.5 million rehabilitation of three huge mine tailings waste piles located beside Railroad Creek some 50 miles up Lake Chelan. The tailings were leftovers from the large Holden Mine operated in the area from 1937 to 1957. Although mine operators met requirements for dealing with the wastes at the time, log cribbing had rotted away from the sides of the piles, and they were being eroded by streams, snowmelt, and wind. Rock work and revegetation efforts helped keep the toxic tailings piles from being washed into Lake Chelan during the November, 1990 floods.

The major new concern emerging from 1991 is being called "Forest Health". Basically, it is the realization that human activities over the past 100 years have gradually changed the vegetation found within much of the Wenatchee National Forest. Probably the major factor in this change has been successful prevention and suppression of wildfires in areas which once were burned naturally every 12 to 15 years by low intensity ground fires. As a result, much of the Wenatchee Forest has become denser than is indicated by historic records, with Douglas fir and grand fir trees becoming much more prevalent. There is a growing concern that these changes are making the forest more vulnerable to insect and disease problems, as well setting the stage for devastating, uncontrollable wildfires in the future.

Because such concerns have so many implications for the protection of wildlife, watersheds, property, and public safety, forest health is likely to be a major focus of forest management activities in the future. There will be many opportunities for public involvement in coming years as forest managers seek new strategies for maintaining healthy, natural forest ecosystems.

This monitoring report contains additional information on these subjects as well as on many other aspects of forest management scheduled for regular review as a result of the Wenatchee Forest Plan.



MONITORING

On March 2, 1990 Forest Service Regional Forester, John H. Butruille, signed the Record of Decision (ROD) for the Land and Resource Management Plan for the Wenatchee National Forest. One of the ten final decisions in the ROD required a monitoring and evaluation process.

The Decision adopting the monitoring and evaluation plans is displayed on pages 18 through 20 in the Record of Decision. The stated objective in the Record Of Decision is:

"to determine whether programs and projects are meeting the Forest Plan direction. Within this broad objective, specific goals are to:

- 1. Ensure that Forest Plan goals and objectives are being achieved and management prescriptions are being implemented as directed.*
- 2. Determine if the cost of implementing the Plan and the management effects are occurring as predicted."*

Information in the Record Of Decision identifies and defines three levels of monitoring: (1) implementation monitoring; (2) effectiveness monitoring; and (3) validation monitoring. Wenatchee Forest managers concentrated on implementation monitoring of the standards and guidelines in environmental analysis, project design, and project layout for fiscal year 1991. Some trends in effectiveness may be indicated within a few resource element sections.

The Record Of Decision contains the following direction for implementation monitoring:

"Forest and Ranger District personnel will conduct implementation monitoring as part of their routine assignments and document the results in project files as part of their management responsibilities. Implementation monitoring will determine if the Plan, prescriptions, projects, and activities are implemented as designed and in compliance with Forest Plan objectives and standards and guidelines."

The adopted monitoring and evaluation plan is displayed in Chapter V of the Forest Plan. The Forest Plan Monitoring Worksheets in Appendix F of the Plan outline a more detailed approach for monitoring the various programs. None of the project activities implemented under the Forest Plan have been completed to the point where effectiveness of the standards and guidelines can be determined. This will be accomplished by visiting some of the same areas when project activities are in progress or when they have been completed. These visits will be part of the monitoring program in future fiscal years. A detailed monitoring report is due after five years of monitoring. This fifth year report will discuss the results of effectiveness and validation monitoring, if available.

The Wenatchee Forest management team developed and adopted a proposal for Forest Plan Monitoring for fiscal year 1991. This proposal specified the monitoring items which would be scheduled for the fiscal year. The monitoring process included reviews of activity files, environmental analysis documents, project plans, and on-site field inspections of various projects. Reviews were made by either individual functional Staff representatives and resource specialists or by review teams which included the Forest Supervisor, Forest Group Leaders, and various resource specialists. The review teams visited at least one project area on each Ranger District and looked at a variety of activities including fisheries habitat improvement, flood rehabilitation, prescribed fire, recreation road access, and timber harvesting.

This is the second Wenatchee National Forest annual monitoring report following the April, 1990, implementation of the Forest's Land and Resource Management Plan. The 1990 report covered a six month period from April through September, 1990, while this report covers Fiscal Year 1991 from October, 1990 through September, 1991.

Although this report covers a full year of monitoring and the Plan has been implemented for one and one-half years, it is difficult to determine trends due to the relatively short time period and complex nature of resource monitoring. Natural variations and/or climatic occurrences, such as the November, 1990 flood on the forest, can and do far exceed any changes due to management activities. As a result, evaluation of monitoring results dealing with effectiveness of the Forest Plan's standards and guidelines will not be possible in less than five years for most elements monitored. Some basic resource elements such as soil and water quality may not show trends related to management activities for ten or more years.

The following table displays fiscal year 1991 outputs as compared to the predicted outputs contained in the Forest Plan. In this table, most Forest Plan predicted outputs have been reduced to a yearly figure. A direct comparison of the predicted and yearly outputs is difficult because the Plan's predicted outputs are for a ten year period and were not intended as an annual accomplishment. While outputs for a given year may exceed or fall short of the predicted outputs, it is anticipated that the cumulative outputs will approximate the ten-year outputs stated in the Forest Plan.

RESOURCE OUTPUTS AND ACTIVITY SUMMARIES

	<i>UNITS</i>	PLANNED OUTPUTS	FISCAL YEAR 1991 OUTPUTS
<u>Developed Recreation Use</u>			
Developed Site	<i>Sites/Year</i>	721	104
Construction			
Reconstruction			
<u>Acres Remaining In Unroaded Areas</u>			
	<i>M Acres at end of Decade</i>	387.8	556.3
<u>Trail Construction and Reconstruction</u>			
	<i>Miles/Yr</i>	81.6	26.5
<u>Wild & Scenic Rivers Proposed</u>			
Wild	<i>Miles</i>	82.5	82.5
Scenic	<i>Allocated</i>	29.0	29.0
Recreational		118.5	118.5
<u>Cultural Resource Management</u>			
Inventoried Acres	<i>Acres/Year</i>	40,000	62,279
Site Documentation	<i>Sites/Year</i>	50	30
Testing/Data Recovery	<i>Sites/Year</i>	0.5	0
<u>Visual Quality Objectives</u>			
Preservation	<i>M Acres</i>	843.3	843.3
Retention	<i>in</i>	521.8	521.8
Partial Retention	<i>Allocations</i>	332.9	332.9
Modification		147.8	147.8
Max Modification		318.3	318.3
<u>Old Growth</u>			
	<i>M Acres/Yr</i>	307.3	309.4
<u>Wildlife Habitat Improvements</u>			
	<i>Acre Equiv./Yr</i>	1,900	570.0
	<i>Structures/Yr</i>	400	351.0
<u>Range</u>			
Grazing Capacity	<i>M AUM's/Yr</i>	38.7	38.7
Permitted Use	<i>M AUM's/Yr</i>	23.0	25.8
Improved Allotments	<i>% Upward Trend</i>	45	45
Fence Const/Reconst	<i>Miles/Yr</i>	9.0	0.75
Springs Const/Recon	<i>Number/Yr</i>	12	8
Noxious Weed Control	<i>Acres/Yr</i>	375	716
Suitable Lands	<i>M Acres</i>	406.9	406.9

RESOURCE OUTPUTS AND ACTIVITY SUMMARIES

	UNITS	PLANNED OUTPUTS	FISCAL YEAR 1991 OUTPUTS
<u>Timber</u>			
Suitable Lands	<i>Acres</i>	630,514	630,514
<u>Timber Offered</u>			
Timber Sale Program Quantity	<i>MM BF/Yr</i>	146 ^{1/}	19.5
<u>Reforestation</u>			
Plant	<i>M Acres/Yr</i>	4.3	6.0
<u>Timber Stand Improvement</u>			
	<i>M Acres/Yr</i>	4.2	2.7
<u>Improved Watershed Conditions</u>			
	<i>Treated Acres/Year</i>	180	564
<u>Minerals Leases & Permits</u>			
	<i>Leases - Permits /Year</i>	195-265	167
<u>Property Line Survey</u>			
	<i>Miles/Yr</i>	70	73
<u>Arterial and Collector Roads Const. & Reconst.</u>			
	<i>Miles/Yr</i>	18	2.8
<u>Timber Purchaser Roads Const. & Reconst.</u>			
	<i>Miles/Yr</i>	83	30.0
<u>Fire Management</u>			
Fuel Treatment	<i>Acres/Yr</i>	6,700	7,375
<u>Social/Economic</u>			
Payments to Counties	<i>Million \$</i>	3.3	6.4

^{1/} This figure has not been adjusted to reflect the March 3, 1992 Record of Decision on Management for the Northern Spotted Owl in the National Forests. This figure is the total of the annual sale quantity (136) plus the unregulated volume (10).

A. RECREATION PROGRAM

The tremendous diversity of elevation, vegetation, and precipitation on the Wenatchee National Forest results in an equal variety of recreation uses and opportunities. In order to respond to the variety of uses, the Forest Service provides 244 developed recreation sites which range from observation and information sites to family campgrounds and winter sports areas. The public enjoys dispersed recreation opportunities such as Wilderness and non-wilderness settings. The non-wilderness areas vary from primitive to rural in their settings. There are 2,489 miles of trails on the Forest, of which approximately 48 percent are located in designated wilderness.

In fiscal year 1991, the Wenatchee Forest provided approximately six million Recreation Visitor Days of use, which is an increase of 20% over 1990.

Monitoring elements dealing with the recreation program include: 1) Providing a well balanced array of recreation opportunities across the breadth of the Recreation Opportunity Spectrum (ROS) in accordance with public demand and expectations for outdoor recreation, 2) Managing trail use to provide recreation opportunity in a wide range of recreation settings and in harmony with other resource management objectives, 3) Providing safe, well-maintained, developed recreation facilities for public use commensurate with recreation demand, and 4) Providing opportunities for dispersed recreation activities (summer and winter) where compatible with other resource management objectives.

A summary of the monitoring activities for the 1991 fiscal year follows.

1) Changes in the ROS Setting Due to Management Activities.

Evaluation of the existing ROS zones and ongoing management activities (Timber Harvest, Road Construction, and Recreation Construction), indicates a minor reduction in the semi-Primitive recreation setting acres. These changes result in the Forest moving toward the desired future condition of recreation opportunity settings described in the Forest Plan.

There is a general improvement in project planning to assess the value of recreation settings and the importance of setting diversity. Environmental documents are now adequately addressing Recreation Opportunity spectrum objectives, and recreation settings are considered during alternative selection.

The following projects are examples of recreation and trail projects where ROS classification has been considered in the project planning:

Tumwater Campground Flood Repair - The southeast corner of Tumwater Campground received heavy damage during the November, 1990, flood. About 500 feet of road washed out, units silted in, and the sewer plant electronics were damaged. Project planning for repair called for maintaining the existing Rural ROS class.

Chiwaukum Trail Relocation above Timothy Meadow - The trail was relocated around a steep section with a sloping slab of rock and included additional switchbacks. The project improvements maintained the Wilderness ROS standards and created a safer environment for trail users.

Mountaineer Creek Bridge Replacement - In the Fall of 1990, the bridge on the Stuart Lake Trail across Mountaineer Creek was removed for safety reasons. A new location for a crossing was found and a footbridge installed while the old crossing can be forded by stock. This primitive footbridge and the ford meet the Wilderness ROS standards.

2) Forest Trails, Including Off-Road Vehicle (ORV) Use.

During 1991, 26.5 miles of trail were constructed or reconstructed on the Forest. One IAC (State Interagency Committee for Outdoor Recreation) project and four timber-sale financed "KV" projects to rehabilitate trailheads were completed. Maintenance activity occurred on about 89 percent of the trail system, including trails in wilderness, non-wilderness trails, and trails that receive predominately ORV use.

The Forest receives public input regarding trail conditions and user conflicts. Public input regarding trail conditions in both the Wilderness and non-Wilderness areas was positive in Fiscal Year 1991. We received several written and verbal reports concerning horse/ORV/hiker conflict issues.

In accordance with Executive Order No. 11989, the Forest Service determined there was no need to enact further restrictions on ORV's this year.

3) Management of Developed Recreation Facilities.

Developed sites are being maintained to Forest Plan Standards and Guidelines even though the Forest has a considerable backlog of heavy maintenance needs. Funding for recreation site maintenance was about 60 percent of Forest Plan level.

During fiscal year 1991 all campgrounds received their annual safety inspection and the Tronsen Campground was closed due to hazard trees.

Inspections of recreation sites and interviews with the using public indicate a high degree of customer satisfaction. Impacts to resource values do not appear to exceed acceptable Standards.

4) Management of Dispersed Recreation Areas.

Dispersed recreation sites in popular areas such as Icicle Canyon, Tumwater Canyon, Cle Elum River area, and major drainages on the Naches District, are at a premium. The use of dispersed sites is increasing, and impacts are becoming evident in some of the heavily used sites.

User satisfaction and preferences was monitored in the Little Naches drainage through observations and visitor response forms. The Forest Service also conducted an extensive visitor use study at Rimrock Lake, collecting data on user characteristics, use patterns by time and location, possible conflict situations, and visitors' preferences and needs. Results from these monitoring efforts show that most users enjoy their visit and that the quality of the recreation setting is a primary attraction. However, some visitors want to see more facilities and services at dispersed sites while others prefer dispersed sites remain "rustic" and unstructured by management. Increased management activities to protect on-site resources (e.g. soil, vegetation, water), has displaced some users who prefer the dispersed sites.

B. WILD, SCENIC, AND RECREATIONAL RIVERS

Ten rivers on the Forest were determined to meet the eligibility criteria for classification by Congress under provisions of the Wild and Scenic Rivers Act. They are being managed to maintain their free-flowing character and to protect certain outstandingly remarkable values. These rivers were found eligible for one of the three classifications levels: wild, scenic, or recreational. Nine of the ten rivers are recommended by the Forest Service for designation. However, the goal of monitoring is to ensure that the character and attributes of all ten rivers are being maintained at their present level until Congress makes a decision on whether they should be designated as part of the Wild and Scenic Rivers System.

In late 1990, there was extensive flooding on portions of the Forest which affected the river environment and structures on some of the ten rivers. Flood rehabilitation activities were monitored for compliance with standard and guidelines, including the need to protect river corridors at their highest potential classification level. Monitoring of activities resulted in project designs compatible with the standards. Intensive planning and design of the activity was reviewed with Regional Office specialists to insure compliance with the requirements of the Wild and Scenic Rivers Act. Sections of the Icicle Road were repaired without changing the free flowing characteristics of the Icicle River. Tumwater Campground flood damage also was repaired without altering the characteristics of the Wenatchee River.

Planning for the reconstruction of Highway 410, Milepost 84.5 to Bumping Junction was conducted in a manner to insure that the American River would retain the character and attributes necessary for inclusion in the Wild and Scenic River system. This project would reconstruct the State Highway adjacent to a section of river recommended for a scenic river classification.

C. SCENERY MANAGEMENT

The Forest is well known for its outstanding mountain, valley, and lakeshore scenery. The landscapes are distinctive in beauty and nature, with sweeping vistas and a variety of topography, ecotypes, and lifeforms. Natural appearing environments exist on much of the Forest with approximately 63 percent of the landscape in a natural appearing condition. Visual quality is to be maintained at a high level for all 36 major scenic highway viewsheds and for all lakes, including the surrounding landscapes.

Forest Landscape Architects were involved in four main efforts this past year. The first was the Visual Management Workshop where Landscape Architects hosted the training of various interdisciplinary project planning team members from the Districts and three representatives of the Colville Confederated Tribe. The Landscape Architects also provided consultation and review of design concepts for special projects like the Holden Mine Rehabilitation vegetation planting design. They provided on-the-ground visual management training and visual management guidelines for Recreation special use projects on the Naches Ranger District, Lake Wenatchee Sewer expansion, and various fisheries enhancement projects.

The second effort included consultation and development of recreation site plans and design of campgrounds and trailheads. Rock Creek Horse campground, Devil's Gulch trailhead, MJB trailhead, Rattlesnake trailhead,

Chelan Interpretive Plan, Silver Falls Interpretive Trail, Bygone Byways Historic Interpretive Trail, and Cle Elum Warehouse are examples of past designs.

The third effort is Visual Resource Management, where the Landscape Architects participate as consultants or as interdisciplinary team members on numerous proposed timber sales, environmental analysis, and design. Timber sales near heavily visited recreational areas and along major scenic highways such as White Pass Highway 12, Little Naches, South Fork Tieton, Stevens Pass Highway 2, Swauk Pass Highway 97, and Lake Chelan, are examples of project involvement by Landscape Architects this past fiscal year.

The fourth area of involvement is with integrated resource planning being conducted for areas on the Ranger Districts.

The goals of visual resource management monitoring are to manage landscapes and facilities to provide aesthetically pleasing surroundings consistent with the stated Visual Quality Objectives (VQO) for each management area.

As part of the Forest Plan monitoring, Forest Landscape Architects reviewed one or more projects per Ranger District in order to assess the potential cumulative effect of resource activities on scenery. The Environmental Assessment documents (EAs) were reviewed in addition to a field review of the area where the project was to occur. During the monitoring of these projects the degree of visual resource information was found to vary in

EAs from very complete to incomplete. The deficiencies in the information was corrected using a checklist which is still being refined as a guideline for improving future projects.

The Swauk Pass Highway 97, White Pass Highway 12, and Shady Pass viewsheds were selected for summary analysis. Visual resource analysis on portions of these viewsheds indicated that the Swauk Pass and White Pass are in a natural to slightly altered condition. The scenic qualities of these viewsheds are maintained at a very high level.

The existing condition of the Shady Pass viewshed is slightly altered to altered. Seeding roadside cut and fill banks with vegetation, as well as logging debris cleanup has improved the visual quality of past timber management activities in the Shady Pass viewshed.

Rehabilitation measures are being taken to improve the scenic quality of viewsheds. Timber sale design techniques will improve past management practices by shaping and blending old units, grass seeding along roads, disposing of slash piles and cleaning of old landings.

D. WILDERNESS

The Wenatchee Forest shares management responsibility for Lake Chelan-Sawtooth, Glacier Peak, Henry M. Jackson, Alpine Lakes, Norse Peak, William O. Douglas and Goat Rock Wildernesses, which total 1,543,234 acres. Portions of these seven Wildernesses occupy 841,034 acres or 39 percent, of the area on the Wenatchee Forest and span a multitude of environments and elevations. They were designated by Congress with the Wilderness Act of 1964, the Alpine Lakes Area Management Act of 1976, and the Washington State Wilderness Act of 1984.

The goals of monitoring resource conditions in the Wilderness are to ensure perpetuation of the wilderness character and natural ecological processes, and to provide recreation opportunities appropriate in wilderness. The intent is to insure that visitor use and management activities are not degrading the wilderness character and that natural ecological processes are not significantly altered by human influences.

Specific monitoring activities are conducted to assure that recreation user impacts do not exceed Forest Plan standards and guidelines as expressed by the Limits of Acceptable Change (LAC) measuring system. Monitoring air quality and the condition of air quality related values in Class I areas is just beginning (See page 41 under Air Management).

A Monitoring Report was prepared for the Alpine Lakes Wilderness in 1990. This report describes the results of monitoring completed since 1982. Results of the monitoring indicate overuse in many areas with local site damage

beyond the limits of acceptable change. As a follow-up to this report, the Forest Service is completing an environmental assessment to develop alternative solutions to recreation use impacts. A recovery plan will be implemented in 1992.

Several projects have been implemented to address resource impact problems. Examples are as follows:

Extensive rehabilitation projects were conducted at two wilderness lake areas where impact exceeded LAC standards.

A permanent fire closure within one-quarter mile of Dewey Lake was initiated in the summer of 1991. This action was taken because the amount of dead, woody debris around the lake campsites was observed and measured to be less than a natural level.

Annual visitor use was monitored by Ranger trip reports, monitoring cards, group party size permits, and caching permits. It was noticed that during the peak use months that Dewey Lake, in the transition Wilderness Recreation Opportunity Spectrum (WROS) zone, exceeded LAC encounter acceptability limits.

On-going monitoring of resource conditions was completed for many sites this past year.

Group party size limitations were exceeded more than twelve times throughout the peak use season.

An extensive effort was made by Wilderness personnel to collect and pack out approximately 3,000 pounds of litter this year.

Wilderness permits were again issued for the Enchantments area of the Alpine Lakes Wilderness on a limited basis. Use was greater than in recent seasons since implementation of the permit system, but did not exceed standards any more than in past years. It appears use was spread more evenly throughout the week. Use exceeded the 60 People At One Time (PAOT) on 19 percent of the days by an average of 12 people. All other days, visitor numbers were at or below standards.

Monitoring of resource conditions is on-going in all Wildernesses. Emphasis in 1991 was placed on obtaining a baseline inventory of all campsites. This emphasis will continue into 1992 and 1993. In the Alpine Lakes Wilderness, repeat monitoring will continue at sites previously inventoried.

E. CULTURAL RESOURCES

The cultural resource base of the Wenatchee National Forest includes a diverse and unusually rich range of historic and prehistoric artifacts and sites. Many of these properties are unique. They provide the sole record of former inhabitants, ways of life and past human activities. They help provide an understanding of human adaptations, uses, and alterations of the Cascade Mountain environment.

Some of the activities related to Cultural Resource management undertaken this past year include cultural resource surface surveys conducted for all proposed ground disturbing projects (such as timber sales, trail and road construction). A permit was issued under the authority of the Archeological Resources

Protection Act to Eastern Washington University for testing three prehistoric sites along the right-of-way of a power transmission line which crosses the Forest. Results of this field work are not yet available. Proposed improvements to one of the large campgrounds on the Cle Elum Ranger District initiated a large-scale shovel probing and testing project, which uncovered one buried archeological site.

Two historic buildings were evaluated for their eligibility for listing in the National Register of Historic Places in conjunction with administration of an organization special use permit site on the Naches Ranger District. One building was determined ineligible, and one building was determined eligible. The eligible structure will soon be recorded to the standards of the Historic American Building Survey requirements so that the permittee may complete modifications they propose to the structure. Additionally, the Leavenworth Ranger Station main office building was also recorded to the standards of the Historic American Building Survey in preparation of construction of an addition to the side elevation. In August, the Bygone Byways Interpretive Trail was opened to public use in the Lake Wenatchee Ranger District. Many visitors have remarked on the interesting transportation history exhibited in such a small area.

Forest Plan monitoring goals are: 1) to the extent practical, protect cultural and historical resources from vandalism, disturbance from project activities, and natural degradation, and 2) rehabilitate damaged sites listed in or eligible for inclusion in the National Register of Historic Places.

High Risk sites (significant cultural sites susceptible to losses or degradation) were monitored on affected Districts. A total of 10 sites were visited and reviewed to determine if project or use related impacts were occurring. A special monitoring study was undertaken in the Little Naches drainage to determine the extent of damage which may occur to cultural sites from a special event ORV jamboree. The sites in question were visited both before and after the event. Results indicate there was little additional damage to these cultural sites, which have a long history of past ORV impacts.

Three prehistoric sites were monitored and documented which had sustained extensive damage from the Thanksgiving Weekend Flood of 1990. This flood has been characterized as an 100-year flood event for the Wenatchee River system. Damage was recorded which showed substantial loss of significant portions of all three sites. In fact, one of these sites was essentially destroyed by the flood. All three sites are known to contain housepit-like depressions, which indicate long term use by their aboriginal inhabitants.

One prehistoric site was also discovered through monitoring of post-timber sale activities, in this case site preparation done before reforestation takes place. The area in which the site is located was excluded from all future actions involved in the post-sale activities.

The results of unauthorized digging were again observed at a site on the Leavenworth District which contains several rock shelters.

There were 62,279 acres of cultural resource surveys conducted for project activities during the year and these resulted in 30 new sites being recorded (9 prehistoric and 21 historic sites). This is a 22% reduction from acres surveyed in the previous year, reflecting a reduction in the forest's timber sale program. Fewer sites were discovered than expected, based on historic trends. The number of acres surveyed in coming years is dependent on the Forest's future timber sale program.

F. COORDINATION OF FOREST PROGRAMS WITH INDIAN TRIBES

The Forest is within the area ceded to the U.S. Government by the Yakima Indian Treaty, dated June 9, 1855. With the conclusion of the Yakima Indian Treaty and the subsequent Executive Order of July 2, 1872, most of the original Native American inhabitants of what are now Chelan, Kittitas, and Yakima Counties were resettled into the Yakima and Colville Reservations. However, certain rights and privileges to the ceded lands were retained. This requires Forest managers to maintain a special relationship with the Yakima and Colville Tribes.

The goal of Forest Plan monitoring is to Coordinate with the appropriate Tribal representatives for all projects which may concern them.

In addition to the monitoring included below a summary of coordination with the Yakima Indian Nation on scenery and water is included on page 12, and on page 34 of this report.

All Ranger Districts solicited Tribal concerns during the scoping of public and agency concerns while planning projects. Draft analysis information has been made available for review of all projects that are of interest to the Indian Tribes.

A natural resource coordinator position, jointly financed by the Yakima Indian Nation and the Forest Service has been added to the Naches Ranger District staff. This partnership has greatly increased the capability of the Forest Service to recognize the concerns of the Yakima Nation in planning and implementing a wide variety of resource activities, including fisheries and timber management.

G. SENSITIVE PLANTS, BIODIVERSITY, AND OLD GROWTH

1. SENSITIVE PLANTS

The Forest is home to a large variety of unique plant species. These species are found here for various reasons including: unique geology, glacial history, and the historic and current climates. There are 51 plant species on the Forest list that are on the Region 6 sensitive plant list. Of these, six are candidates for federal listing and all 51 are listed as endangered, threatened, or sensitive by the State of Washington.

Forest Service policy requires that biological evaluations be completed prior to any ground disturbing activities with the intent of maintaining viable populations of all sensitive plants. In most cases sensitive plants are not found during the survey process. However,

when sensitive plants are located, the activities are modified to avoid any direct or indirect effects on the sensitive species. In one case, some trees will be carefully harvested over a small pine broomrape population (Leavenworth District) to determine the effects of shade reduction. Approximately 20,000 acres were surveyed and 89 biological evaluations were completed before ground disturbing activities occurred. These project inventories resulted in the discovery of 18 new populations of seven different sensitive species.

Approximately 3,000 acres of habitat improvement inventory not associated with project activities was also completed in the Table Mountain area (Cle Elum District). This inventory was conducted to determine if Henderson's ricegrass was present in that area and to establish the extent of tall agoseris which is a member of the sunflower family. Henderson's ricegrass was found and several new populations of tall agoseris were located.

Another habitat improvement inventory was done on the Lake Wenatchee District and resulted in the location of 35 new populations of various grape ferns and 2 new populations of Smokey Mountain sedge. A fence was built on the Leavenworth district to protect one population of Wenatchee Larkspur.

Data collection as part of on-the-ground monitoring was continued or initiated for a number of sensitive species. This work involved the Wenatchee Forest, the Wenatchee Forestry Sciences Laboratory, Washington State University, and the University of British Columbia.

-Wenatchee Larkspur

Plot sampling was completed on three populations of Wenatchee Larkspur by Ranger District and Forest Service staff. Two of these populations have been sampled for three years. Sampling data included number of fertile stalks, height and number of flowers, and buds or fruits for 10 selected plants per plot. Sampling methods were further refined during this past field season. In cooperation with Washington State University, starch-gel electrophoresis, a technique used to determine the degree of genetic variability within and between populations, was also completed in 1991. The Wenatchee Forestry Sciences Laboratory also continued to collect measurements on individual plants from a number of populations, initiated a germination study, shading study, and a study to determine the effects of soil water levels on plant survival and growth.

Inspection of the plant numbers data did not reveal any significant trends in the plant populations where sampling was completed. It does appear that Wenatchee Larkspur has a tremendous potential to fluctuate the number of flowering stalks from year to year. For example, one plot that had only 11 fertile stalks in 1990 had 102 fertile stalks in 1991. At the same time one plot in the same population area had decreased numbers and several plots in other populations had fewer flowering stalks in 1991 than in 1992.

Results of the genetic studies indicated high levels of variability both within and among populations. The high levels of variation are surprising given the rhizomatous nature of the plant. This suggests that the rhizomes are not very extensive.

-Showy Stickseed

The Forestry Sciences Laboratory and Wenatchee Forest Botanists have worked together to measure several parameters. Plants are sampled in permanent plots to determine number of plants and are permanently marked to ascertain plant size and number of flowers. Further, studies are being done to determine the reproductive status of the plants. These data have not yet been analyzed.

-Chelan Rockmat

The Forestry Sciences Lab and the Wenatchee Forest Botanists are collaborating in a monitoring study for this species. Twenty-five plants are individually marked to assess their survival and growth. This study is in its second year. Further cuttings of plants have been taken and rooted to determine the effectiveness of this method in propagating plants. This technology has proven to be very effective. This study will also be used for long term global warming indication. Results have not yet been evaluated.

-Thompson's Clover

The Forestry Sciences Laboratory, Wenatchee Forest Botanists, and Washington State University are working together to monitor trend, assess habitat, and determine reproductive characteristics for this plant. Two populations of the species have been sampled.

-Henderson's Ricegrass

The University of British Columbia and the Wenatchee Forestry Sciences Laboratory have been cooperating on a study to compare the attributes of rare versus common species. Dr. Jack Maze from the University of British Columbia began work that compares a common needlegrass with the rare ricegrass. Henderson's ricegrass was first documented on the Wenatchee National Forest this year.

Other Sensitive Species

Monitoring systems were established for populations of the following sensitive species: Clustered Lady's slipper, Smoky Mountain sedge, and two grape fern species.

2. BIODIVERSITY

Biodiversity assessment at the landscape level is an evolving process. Currently, Forest Plan direction calls for assessment of the effects of a proposed activity on attributes that effect biological diversity in the subdrainage. Consequently, attributes like old growth and sensitive species are addressed in planning to determine how the proposed project would effect these resource values. Essentially, professional judgement is used to make a decision on impacts a proposed project may have on biodiversity attributes.

Initially, when the Forest Plan was written, it was anticipated that a modeling process might soon be developed to allow a more objective assessment of project effects on diversity. Such a process has not been forthcoming.

Consequently, the original monitoring questions relating to trends in diversity and the use of a model proved to be unattainable. A replacement question was suggested for Fiscal Year 1991: "Is biodiversity being addressed in NEPA documents and protected?" This suggestion may result in an amendment to the monitoring worksheet in appendix F of the Plan this year.

In response to this question, essentially all NEPA documents for sales larger than 5 million board feet in Fiscal Year 1991 were reviewed for biodiversity input by the Forest Botanist/Ecologist. None of the documents specifically addressed the issue using the term "biodiversity". However, in nearly all NEPA documents, critical attributes of biodiversity were addressed to varying degree: threatened, endangered and sensitive species (both plants and animals), old growth and/or old growth habitat and wildlife habitat, were very common topics in many environmental assessments.

3. OLD GROWTH ECOSYSTEMS

Old growth is typically thought of as a plant community made up of very large trees and other related vegetation that has no visible evidence of human activities and may be several hundred years old. There are areas of old growth like this on the Wenatchee National Forest. However, characteristics of old growth vary with a site's growing potential and much of the forest land on the Wenatchee Forest probably has never supported the awe-inspiring stands commonly equated with old growth. Forest employees have completed several old growth surveys. The estimates

indicate that there are 319,000 acres of old growth on the Wenatchee National Forest, of which 148,000 acres are in Wilderness. About 70,000 acres are outside of Wilderness but are not available for timber production as a result of Forest Plan allocations, and 101,000 acres are shown as available and suitable for timber production in The Plan.

In fiscal year 1990, regional definitions were developed for old growth in several climax tree types. More definitions will be completed in the coming year. Further, an inventory of old growth was completed west of the Cascades on National Forest System lands. An old growth inventory may be completed on the east side of Washington and Oregon in the near future.

The October 3, 1990 Federal Register announced a decision by the Department of Agriculture to vacate the December 1988 Record of Decision by the Chief of the Forest Service, which amended the Regional Guide for management of the Northern spotted owl in the Pacific Northwest Region. The Record of Decision for the Environmental Impact Statement on Management of the Northern Spotted Owl in the National Forests was signed on March 3, 1992. This decision provides management directions for the spotted owl and will reduce the old growth acres available for timber production on the forest.

The goal of the forest management program is to assure the maintenance of old growth forest ecosystems as needed for plant habitat, esthetics, and biological diversity, while still providing appropriate levels of timber harvest for commodity use.

There were 7 acres within old growth stands (one salvage sale) offered in timber sales in fiscal year 1991. This amount is due to a court ruling and subsequent decision by the Regional Forester to not offer timber sales containing timber within suitable Spotted Owl habitat. The acres represent volume sold, but not necessarily harvested, for a one year period. The two year harvest amount (1990 and 1991) approximates the rate estimated in the Forest Plan of 1,170 acres average per year. The harvest amount will be checked annually and evaluated at the end of five years as outlined in the monitoring plan.

H. WILDLIFE

INCLUDING MANAGEMENT INDICATOR SPECIES, PROPOSED, ENDANGERED, AND THREATENED SPECIES, AND HAWK AND OWL NEST SITES

The Wenatchee National Forest provides year-round or seasonal habitat for an estimated 394 species of wildlife, which includes 13 amphibians, 18 reptiles, 273 birds, and 90 mammals.

The wide variety and number of wildlife species is due to the diversity of habitat found on the Forest: from high elevation habitat suitable for mountain goats, to low elevation habitat suitable for jack rabbits. There is wet westside-type habitat used by spotted owls and dry eastside habitat inhabited by mule deer. The extremes of habitat often occur close together with the result being a large

patchwork of vegetation types. Fire and vegetation manipulation play a role in providing a range of successional stages in a diversity of habitats.

In 1991, approximately 200 biological evaluations (BEs), for projects involving Proposed, Endangered, or Threatened Species (PETS), were completed. It was determined that about 150 projects had no effect on wildlife, or the effects were acceptable based on informal consultation with the U.S. Fish and Wildlife Service (USFWS). The other 50 evaluations were formalized into biological assessments (BAs), and these were reviewed with the USFWS through the formal consultation process.

This year the Forest inventoried more acres of wildlife habitat than in past years. The estimated acreage inventoried was 635,953 for 17 wildlife species. Inventoried acres are shown by species in the following pages (except for Mountain Goat where 5,000 acres were inventoried and showed an estimated population of 1,600 animals).

In 1991 training was provided on design and implementation of the Watchable Wildlife program. Following are the results of implementing the interpretative program in 1991:

- a. Wildlife biologists provided Environmental Education in schools that neighbor the Forest. This activity is a continuation from previous years.
- b. Biologists spoke at public meetings and upon request at local clubs interested in wildlife. This activity is a continuation from previous years.

c. Programs and displays were provided at major events such as Apple Blossom Parade, Chelan and Kittitas County Fairs and other events.

d. Special programs for the public were developed with local and national Challenge Cost Share partners (CCS). Examples are the Leavenworth Salmon Festival with an estimated 8,000 visitors and Kids Day for Conservation in Wenatchee with an estimated 3,000 visitors.

e. Interpretation trails are being integrated into wildlife habitat. An example is the Entiat Falls trail where wildlife viewing areas were signed and interpreted.

The Forest Plan estimates completion of an average of 1900 acres and 400 structures of habitat improvements for wildlife and plants per year. Forest Service employees increased the number of habitat improvements in 1991 above that achieved in past years. The following table shows the number of acres and structures funded and the amount implemented in 1991.

**HABITAT IMPROVEMENTS
PROPOSED, ENDANGERED, THREATENED,
AND SENSITIVE SPECIES (PETS)
AND OTHER WILDLIFE**

	<u>ACRES</u>	<u>STRUCTURES</u>
Funded in 1991	244	15
Accomplished in 1991	570	351
1990-91 Average Accomplished	661	201

Structural improvements completed this year for wildlife not classified as indicator or PET species included 5 improvements for Goshawk, 5 for Kestrel, 5 for Flying Squirrel, 40 for Bluebirds and others, and installation of 13 Roost structures.

1. MANAGEMENT INDICATOR SPECIES

Management Indicator Species are plant or animal species whose population characteristics can be used to evaluate the effects of land and resource management practices on the habitats they use. Selected species are:

WILDLIFE MANAGEMENT INDICATOR SPECIES AND HABITATS SELECTED FOR THE WENATCHEE NATIONAL FOREST

<u>SPECIES</u>	<u>HABITAT</u>
Northern Spotted Owl Pileated Woodpecker Marten/Northern Three-Toed Woodpecker	<i>Mature or Old Growth Coniferous Habitat</i>
Mountain Goat	<i>Rockland, Alpine High Elevation Old Growth Conifer Habitat</i>
Mule Deer and Rocky Mountain Elk	<i>Shrub, Grass, Meadow, Thermal and Hiding Cover</i>
Primary Cavity Excavators	<i>Standing and Down, Dead and Defective Trees</i>
Beaver/Ruffed Grouse	<i>Riparian/ Deciduous Habitat</i>

The goal of the indicator species program is to provide habitat to maintain viable populations of all vertebrate species on the Forest.

a. Northern Spotted Owl

Direction for management of the spotted owl and its habitat has changed since decisions were made in the Forest Plan and are continuing to change. The 1990 direction from the Federal Register is: "the Forest Service will conduct timber management activities in a manner not inconsistent with the Interagency Scientific Committee recommendations during this interim period." This decision established habitat conservation areas to be managed for spotted owl habitat.

New direction for management of the spotted owl has been developed through a Region Six Environmental Impact Statement released in January 24, 1992, and the Record of Decision was signed in March, 1992. A U.S. Fish and Wildlife Service Spotted Owl Recovery Plan is due for release in May, 1992. This direction may result in an amendment to the Forest Plan and results will be reflected in future monitoring reports.

A total of 353,240 spotted owl habitat acres were inventoried on the Forest in 1991. Of these acres, 62,000 were inventoried in Habitat Conservation Areas and the remaining 291,240 acres were inventoried outside of the designated Habitat Conservation areas and in association with potential timber sale projects.

The inventory of known spotted owls on the Wenatchee Forest continues to increase each year. This is due to the increased quantity of acres inventoried.

NORTHERN SPOTTED OWL

	Owl Pairs	Owl Resident Singles	Other Singles	Young	Estimated Total Owls
1989	55	NA	72	NA	182+
1990	116	6	81	NA	319+
1991	146	24	60	98	474

NA = Not Available

In fiscal year 1990 an estimated 6,000 acres of suitable spotted owl habitat was included in timber sales sold that year. This was about twice the Forest Plan estimate for annual harvest. Because less than 10 acres of suitable habitat were included in timber sales sold in 1991, the two-year average is now close to predicted outputs for the Forest Plan. Due to new research and a refinement of forest owl habitat information, a 1991 remapping of suitable spotted owl habitat on the Forest resulted in an acreage increase from 521,000 acres to 562,715 acres.

The Wenatchee Forest managers have entered into spotted owl research partnerships with the National Council for Air and Stream (NACSI), and the Pacific Northwest Research Lab in Wenatchee (PNW). In cooperation with these groups, 191 adult and 145 juvenile spotted owls were banded from 1989 through 1991. Ninety-five of these were banded in 1991 and an additional 29 owls were fitted with tiny radio transmitters. Research has been done for the last 3 years and progress reports show a significant amount of information being collected that will help with future management of the spotted owl.

Seven habitat improvement structures were completed in 1991 for the spotted owl. There were 5 structures completed for flying squirrels that may have some benefits for spotted owls.

b. Pileated Woodpecker, Northern Three-Toed Woodpecker, and Marten

Spotted owls, pileated woodpeckers, northern three-toed woodpecker, and marten are all indicators for mature or old growth habitat and are all affected by changes in this habitat.

PILEATED WOODPECKERS, NORTHERN THREE-TOED WOODPECKERS, AND MARTEN SIGHTINGS

Year	Pileated Woodpecker	Northern Three-Toed Woodpecker	Marten
1990	125	9	14
1991	102	9	69

The sightings in 1991 are similar to 1990 for the pileated and northern three toed woodpecker. The marten sightings have increased greatly due, in part, to the acres inventoried. There is a fairly good population of pileated woodpeckers and marten present on the Forest, but populations of three-toed woodpeckers are unknown.

PILEATED / NORTHERN THREE-TOED WOODPECKER, AND MARTEN

Species	Structural Improvements	Acres of Improvements	Acres Inventoried
<i>Pileated Woodpecker</i>	20	25	100
<i>Northern Three-Toed Woodpecker</i>	0	0	20
<i>Marten</i>	0	0	1,100

There were 236 structures completed for Primary Cavity Excavators. Some of the structures for Primary Cavity Excavators are usable by pileated and northern three-toed woodpeckers.

c. Primary Cavity Excavators

The Forest has a partnership with Central Washington University and the Pacific Northwest Research Lab in Wenatchee to develop a method of inventorying habitat that results in a good predictor of Primary Cavity Excavators populations.

PRIMARY CAVITY EXCAVATORS

Year	Structural Improvements	Acres of Improvements	Acres Inventory
1990	NA	MA	NA
1991	236	0	720

NA = Not Available

Some benefits from the 20 structures and 25 acres of improvements for pileated woodpeckers will help other Primary Cavity Excavators.

d. Mountain Goat

Mountain goats are commonly hunted and viewed on the Forest. There were 5,000 acres inventoried which showed an estimated population of 1,600 animals in 1991.

e. Mule Deer and Rocky Mountain Elk

Estimated numbers of Mule Deer using Forest lands are 25,000 and Rocky Mountain Elk are 12,000, which are the same numbers estimated at the beginning of the planning period.

MULE DEER AND ROCKY MOUNTAIN ELK

Animal/ Year	Structural Improvements	Acres of Improvements	Acres Inventory	Estimated Number
Deer 1990	NA	NA	NA	25,000
Deer 1990	16	393	20,000	25,000
Elk 1990	NA	NA	NA	12,000
Elk 1991	1	325	20,000	12,000

NA = Not Available

The structural improvements ranged from road closures to water developments. The acres of habitat improved include forage seeding, shrub plantings, burning of decadent bitterbrush, and bitterbrush clipping. Deer

will receive some additional benefits from the structure and habitat improvements completed for elk, and elk will benefit from the improvements to deer habitat.

The Wenatchee Forest, Washington Department of Wildlife, and the Rocky Mountain Elk Foundation have just completed the fourth year of a five year study on elk. This study has established a model and data that shows elk stay close to water. The final report will be available next year.

The Cle Elum Ranger District and the Rocky Mountain Elk Foundation completed 100 acres of habitat improvements for elk through a Challenge Cost Share project.

f. Beaver and Ruffed Grouse

Wildlife, fisheries, and water resources are intertwined in this zone. Therefore, there are many opportunities to integrate the programs. In the future, fisheries inventories may include wildlife habitat.

RIPARIAN

Animal/ Year	Structural Improvements	Acres Improvements	Acres Inventory	Acres of Habitat
Beaver 1990	NA	NA	0	NA
Beaver 1991	0	0	1,000	NA
Ruffed Grouse 1990	NA	NA	0	NA
Ruffed Grouse 1991	0	0	100	NA
Riparian Habitat 1990	NA	NA	0	159,800
Riparian Habitat 1991	1	130	0	159,800

NA = Not Available

Improvements to riparian habitat affect many of the wildlife species since water and cover are often the limiting factors. Therefore, the 130 acres of improvements are for riparian habitats as a whole and not specific to the indicator species.

The inventory information has been used to identify problems and opportunities which have been used in cooperation with the Washington Department of Wildlife and the Forest to relocate beavers.

Monitoring of riparian habitat is also incorporated into the monitoring for fish and water.

2. PROPOSED, ENDANGERED AND THREATENED SPECIES.**a. Sensitive species.**

Species proposed for listing as threatened or endangered are identified as "sensitive" species within the Forest Plan. Sensitive species include bighorn sheep, Townsend's big-eared bat, Canadian lynx, California wolverine, ferruginous hawk, Swainson's hawk, and long-billed curlew.

The goal for the management of sensitive species is to enhance habitat to prevent the need for listing species on the Regional Forester's sensitive species list.

Few projects affected bighorn sheep populations or habitat. Bighorn sheep populations and their use areas have not been totally inventoried. Very little information was gathered on bighorn sheep in 1991 although a number of sightings were made on the Forest. Some of those were in places where sheep had not been seen before.

The Naches Ranger District is implementing a plan developed last year for the only known site on the Wenatchee Forest inhabited by Townsend's Big Eared-Bats. Following are the results of inventories of the Boulder Cave site.

**BOULDER CAVE
TOWNSEND'S BIG-EARED BAT SURVEYS**

Dates Surveyed	Number of Bats
January 8, 1991	34
April 15, 1991	7
Summer Survey 1991	0

The above has been the trend for the last few years. We do not know why bats are not using this cave in summer or where their summer habitats are located.

There were 8 structures established around Boulder Cave for bats in 1991. Monitoring in 1992 will determine their use by bats.

On other parts of the Forest a number of caves (estimated to have covered about 3 acres) were surveyed for Townsend's Big-Eared Bats. No Big-Eared Bats were found in these surveys.

Habitat for Canadian lynx and California wolverine was evaluated for all timber sales. Some projects improved habitat and some decreased habitat. The total effect is not known at this time.

LYNX AND WOLVERINE

Species/ Year	Structural Improvements	Acres of Improvements	Acres Inventory
Lynx 1991	14	15	2,700
Wolverine 1991	0	0	1,300

Ferruginous hawk populations and habitat were assessed for all timber sales. Habitat and populations appear unchanged. Ten acres of Ferruginous Hawk habitat were inventoried in 1991.

Information on potential habitat or location of the long-billed curlew was solicited from the Ranger District biologists and from Washington Department of Wildlife biologists. No locations or potential habitat are known to exist on the Forest. Biologists will continue to watch for activity and habitat for this species.

Twenty-four hundred acres were surveyed in 1991 for the common loon. This survey verified that loons are uncommon but that they do nest within the Forest.

b. Endangered and Threatened Species.

Endangered and threatened wildlife species found on the Forest are the bald eagle, peregrine falcon, grizzly bear, gray wolf, and northern spotted owl. All reports of sightings for threatened and endangered species were documented and in the case of spotted owls, grizzly bears, gray wolves, and peregrine falcons were checked to determine the accuracy of the report. As planned, all sightings were reported to the Washington Department of Wildlife in a timely manner.

The goal for endangered and threatened species is to manage critical wildlife habitat to improve their status to a point where these species no longer need protection under the Endangered Species Act of 1973.

The status of the northern spotted owl has been discussed in this report under the indicator species section.

-Bald Eagle

The goal for bald eagle habitat is to meet recovery levels established in the Pacific States Bald Eagle Recovery Plan.

BALD EAGLE

Year	Nests	Pairs	Young Produced	Unconf. Nests	Est. Number	Est. Acres Habitat
1985	1	1	1	0	3	NA
1989	1	2	1	2	7	NA
1990	2	2	2	1	9	34,000
1991	2	2	2	1	9	34,000

NA = Not Available

The roosting structures built in 1990 were used in 1991 by eagles and osprey and 3 additional roost structures were built. Eighteen hundred acres were inventoried for roosts and nests in 1991.

It appears that the population of bald eagles in both winter and summer are increasing on the Forest.

-Peregrine Falcons

The Naches Ranger District has been participating in recovery of the peregrine falcon for the last 3 years. The partners that have been working with the Forest Service are: The Washington Department of Wildlife, Boise-Cascade Corporation, Washington State Chap-

ter of the National Audubon Society, U.S. Fish and Wildlife Service, and the Peregrine Fund, Inc. The objective of this partnership is to re-establish peregrine falcons in the wild.

In 1991 the program resulted in 11 birds being released at two sites. Two adult, marked, birds were seen this year that are the result of previous programs. With adult birds in the area and new birds being added this year, it would not be surprising to find peregrines nesting next year.

PEREGRINE FALCON

Year	Number Hacked	Nests	Confirmed Sightings	Unconfirmed Sightings	Est Number
1988	0	0	0	1	NA
1989	5	0	0	0	5
1990	5	0	1	1	5
1991	11	0	2	0	13

In addition to the above 300 acres of habitat were inventoried this year.

NA = Not Available

-Grizzly Bears

Approximately 65% of the Forest is being studied for addition to the grizzly bear recovery program. The Wenatchee Forest has biologists participating in the technical team that is reviewing the possible recovery for Washington. Should the Forest become a recovery area, plans will be needed to begin implementation of the public education portion of the program in 1992.

GRIZZLY BEARS

Year	Sighting Confirmed	Sighting Unconfirmed	Est. Number
1989	1	NA	1
1990	0	NA	1
1991	2	6	1-2

NA = Not Available

Six hundred acres were inventoried for grizzly bears in 1991. The mapping for grizzly bear habitat was completed in 1991 and this information and sightings will be loaded into the Forest's Geographic Information System (GIS) system by June of 1992. After June, the models for analysis of grizzly bear habitat will be available for biologists.

No habitat improvements were completed for grizzly bears. Some of the 718 acres and 17 structures that improve habitat for deer and elk will benefit the grizzly bear by providing foraging opportunities.

-Gray Wolves

The Wenatchee Forest biologists are participating on interagency teams that are looking at managing gray wolves in Washington.

GRAY WOLVES

Year	Sighting Confirmed	Sighting Unconfirmed	Dens	Est. Number
1989	0	3	0	NA
1990	3	11	1	5-8
1991	5	24	1	8-15

NA = Not Available

In 1991, 270,060 acres were inventoried for gray wolves. This number of acres was accomplished in partnership with Wolf Haven, Washington Department of Wildlife, and the Okanogan National Forest. This is a significant increase in the number of acres inventoried for this species. The Forest is planning to inventory a large number of acres for wolves in 1992.

There was one structure (a road closure) established for wolves. Improvements for deer and elk will likely provide additional forage potential for gray wolves.

3. Hawk and Owl Nest Sites

To meet the requirement of the Migratory Species Treaty Act Forest managers are required to protect nest sites of hawks and owls. There has been no land allocation for these sites but by using inventory data we will maintain roost and nest sites as needed to facilitate future nesting.

One program goal is to manage hawk and owl nest sites to provide recreation opportunities for viewing wildlife.

NESTS PROTECTED IN 1990 AND 1991

Species	Number of Nests	
	1990	1991
spotted owls	many	21+
bald eagles	2	2
red tailed hawk	1	9
goshawk	4	14
barred owl	2	8
great horned owl	3	1
unidentified hawk species nests	4	0
unidentified owl species nests	4	0

About the same number of hawk and owl nests were protected in 1991 as in 1990. The main difference is Biologists are keeping better records and spending more time identifying the species of hawks or owls using the nests.

I. TIMBER OFFERED, HARVESTED, AND RELATED SILVICULTURAL ACTIVITIES

Conifer forest ecotypes occupy approximately 69 percent of the Forest. Elevation, soil types, precipitation, and aspect combine to create a wide variety of ecological vegetative types. The Dry Forest includes the low elevation, dry sagebrush, bitterbrush, grass type along the east edge of the Forest changing to the Ponderosa pine/Douglas-fir zone with increasing elevation and moisture. The Wet Forest is characterized by a wide variety of plant species. Ponderosa pine may be present, but without disturbance it will gradually be replaced by shade tolerant grand fir, silver fir, western hemlock, or western red cedar. The Sub-Alpine Parkland is best known for its wide variety of flowering herbs and forbs, parklike stands of whitebark pine, Engelmann spruce, subalpine fir, and sub-alpine larch.

Of the 2,192,262 acres of net National Forest land on the Wenatchee Forest, 791,899 acres outside of wilderness were determined to be tentatively suitable for timber production. After deducting tentatively suitable acres located in other land allocations where there is no scheduled timber harvest, approximately 630,414 acres of suitable lands are available for harvest activities. This represents about 30 percent of the National Forest. The adoption of the Interagency Scientific Committee Report requiring Habitat Conservation Areas for the Northern Spotted Owl may result in a further reduction in available timber lands. Forest managers are evaluating the need for an amendment to the Forest Plan at this time.

Newly developed Tracs timber and land suitability data bases show new figures for the allowable sale quantity and suitable land base which will require adjustments to the Plan.

Approximately 135.6 million board feet of timber was harvested on 9,523 acres of the Wenatchee Forest this past year. Revenue from timber sales was \$14,859,116 of which \$4,041,680 was returned to the local Counties for roads and schools. There were an estimated 1,600 jobs generated from timber activities.

Monitoring goals for the Forest's timber program and related silvicultural activities include: (1) achieve planned timber sale volumes annually for the planning period; (2) manage National Forest timber harvest to meet direction on size of created openings; (3) ensure that regeneration harvests are not prescribed for areas where average annual growth has not generally reached culmination of mean annual increment; (4) assure that silvicultural prescriptions are appropriate, effective, and consistent with resource objectives for each management area, (5) minimize the amount of time between the removal of existing trees and reforestation with desired species; (6) verify that there is no technology and/or other information to justify reclassifying lands from a not suitable status to suitable, or vice versa; and (7) assure that management practices do not contribute to increases in the incidence of destructive insects and diseases such as spruce budworm, Douglas-fir tussock moth, pine beetle, mistletoe, root rots, and others.

In 1991 there was 19.5 million board feet of timber sold. Also, approximately 8,370 Christmas trees were sold last year. There were two major reasons for not selling the volume at the indicated Forest Plan average annual sale quantity level of 136 million board feet. These are: 1) The federal court injunction which banned the sale of timber from suitable spotted owl habitat and 2) the Forest started the year with very few sales prepared for offering because most potential sales had already been offered in 1990 to meet the requirements of Section 318 of the Federal Budget Act.

All timber harvest activities on National Forest land met the direction on size of created openings.

Timber sales monitored in 1991 for silvicultural practices included some in the preparation stage, some in the sold but not cut stage, and some in the reforestation stage. In general, all stands scheduled for regeneration harvest were at or beyond culmination of mean annual increment. In a few cases, small areas that had not reached culmination were included in regeneration harvest cuts.

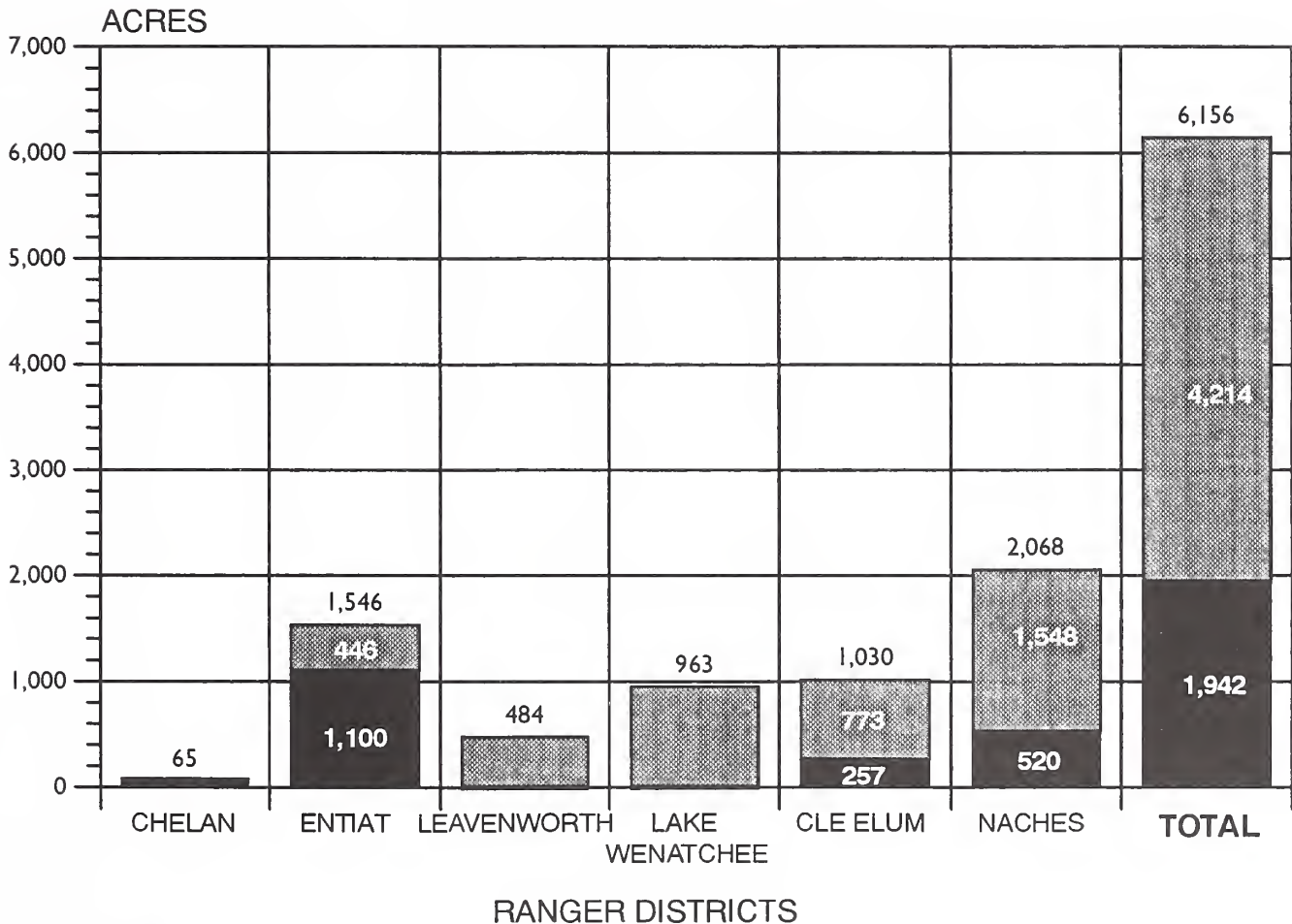
Monitoring for growth and yield is difficult on recent sales. However, some estimates of expected yield was made on sales monitored. Estimated results are that of 18 areas monitored, 7 are estimated to result in less yield and future growth than expected, 3 are higher than modeled, and 8 should produce as expected.

In fiscal year 1991, an estimated 2 million tree seedlings were planted to reforest 6,156 acres (figure F-35-1). Survival of planted seedlings was excellent. An example of survival rates on reforested acres is shown in figure F-35-2.

In addition, 4,716 acres of timber stand improvement (TSI) work was accomplished (figure F-35-3). The majority of the improvements consisted of thinning of excess trees, and some fertilization and pruning.

The Forest is monitoring the average elapsed time from harvest to reforestation. The average time is not available because of the length of time the plan has been implemented. However, past experience indicates that reforestation will occur well within the three-year time period. The first-year plantation survival from 1990 reforestation was approximately 92%.

Figure F-35-1
REFORESTATION ACCOMPLISHMENTS
WENATCHEE NATIONAL FOREST FY 91





-  Knudson-Vandenburg Reforestation (financed through timber sale revenues)
-  Appropriated Reforestation (annual funds budgeted by Congress)

Figure F-35-2

**REFORESTATION SURVIVAL RATES
of approximately 2 million trees planted**

WENATCHEE NATIONAL FOREST FY 91

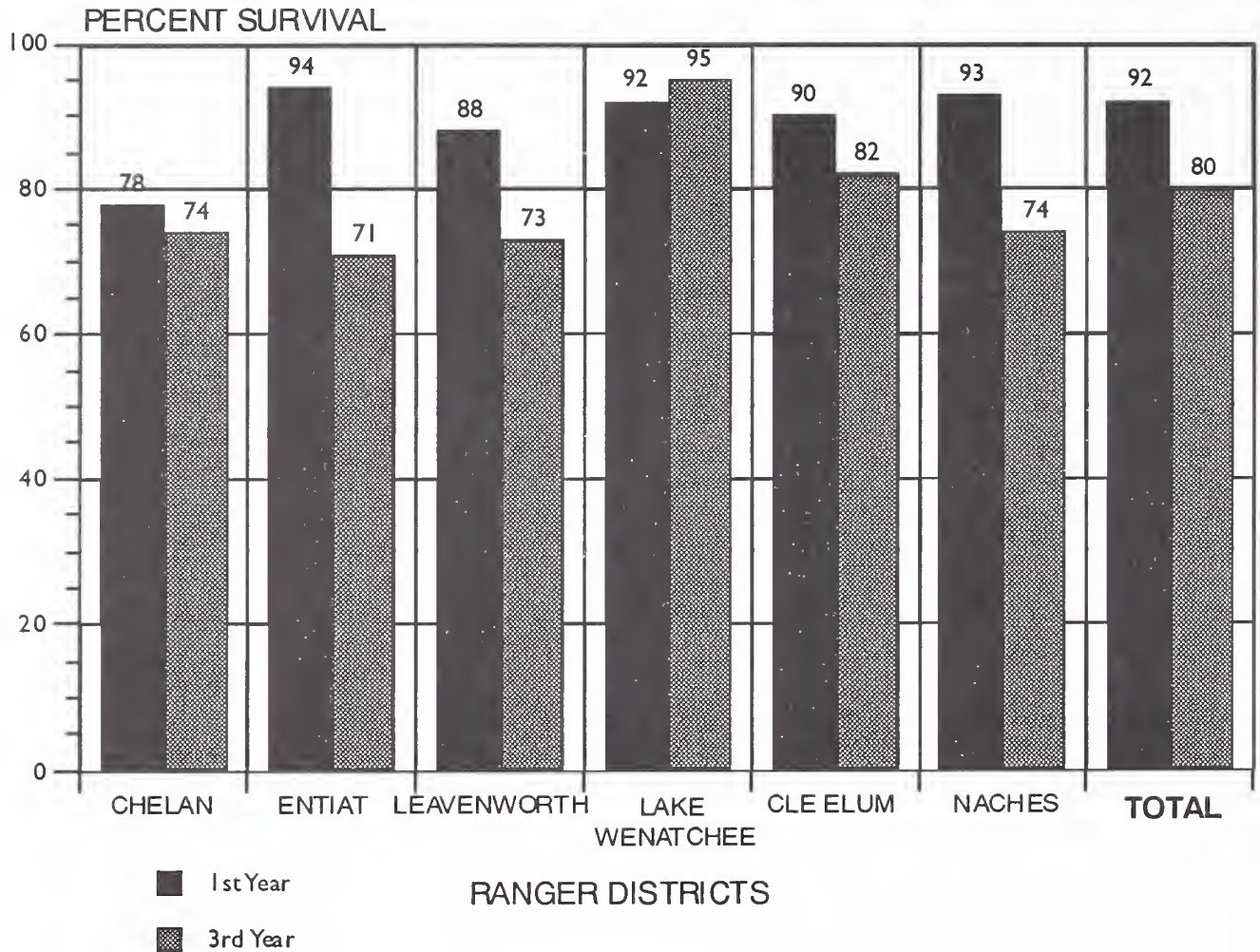
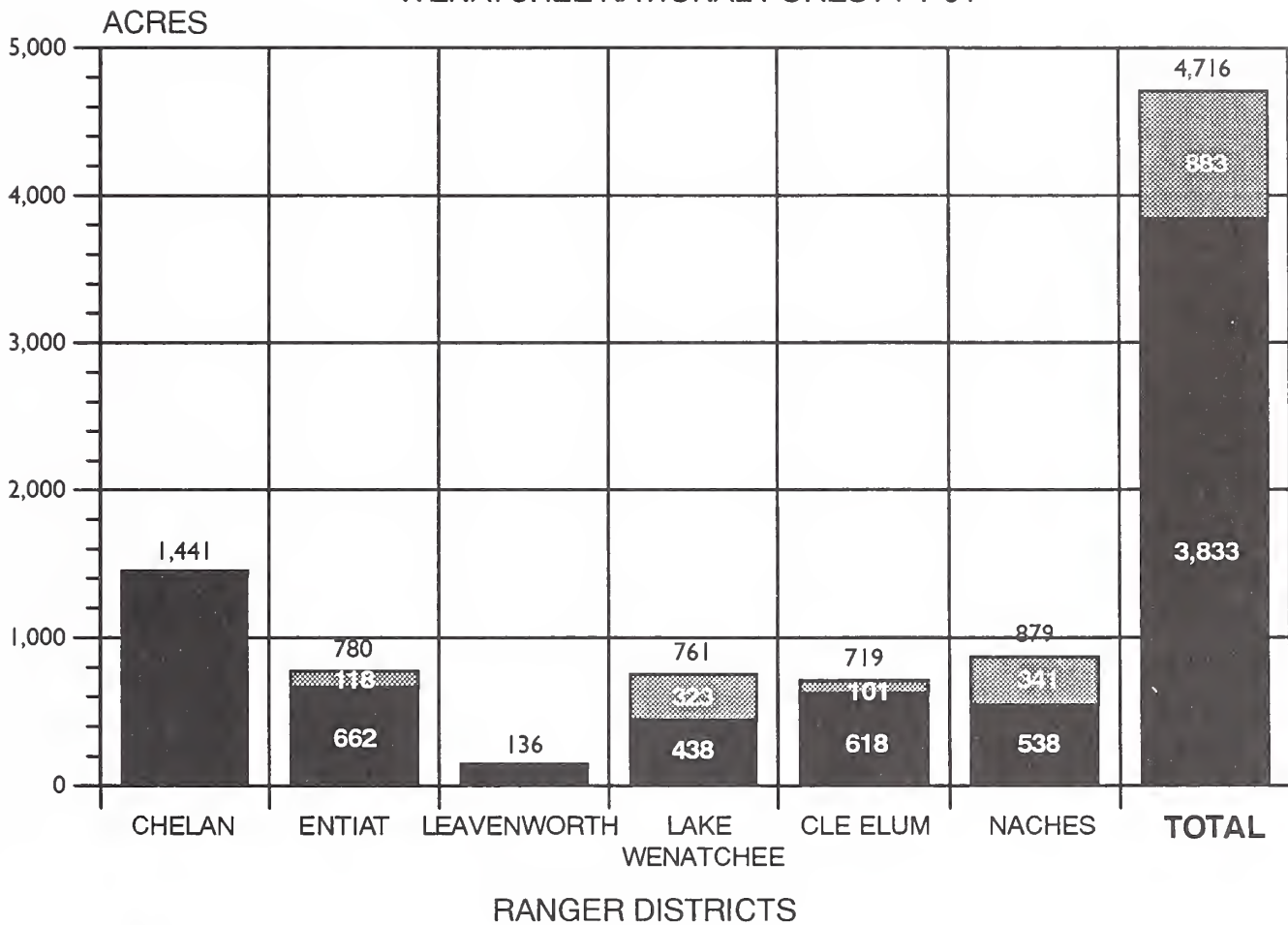




Figure F-35-3

TIMBER STAND IMPROVEMENT ACCOMPLISHMENTS **WENATCHEE NATIONAL FOREST FY 91**



-  Knudson-Vandenburg Timber Stand Improvement (financed through timber sale revenues)
-  Appropriated Timber Stand Improvement (annual funds budgeted by Congress)

Suitability of forested land to sustain commercial crops of industrial wood is being field verified within new timber sale planning areas. The primary consideration is the ability of a site to be reforested within five years. Ranger Districts will update suitable acre inventories on the Geographic Information System as the program becomes operational.

The annual Aerial Insect Survey Maps were reviewed and sent to the Districts. A general increase in insect-caused tree mortality was indicated, especially in grand fir stands.

J. SOIL, WATER, FISHERIES, AND RELATED WATERSHED MANAGEMENT

Soil and water are two of the basic resources on the Wenatchee Forest. Due to the relationship of both soil loss and water quality to management activities it is difficult to separate them when discussing soil or water monitoring and effects of project activities on these resources. In addition, fish habitat and fisheries management is directly dependent on the condition of the basic soil and water resources.

One of the more important roles of forest soils is their ability to absorb and store water, then release it slowly over time. The slow release of this stored water is especially important for late summer stream flows. It can affect fish habitat, as well as the availability of water for irrigation and other uses.

1. SOIL

The Wenatchee National Forest is a large forest and has within its boundary more than 200 different kinds of soils. There are several reasons that the Forest has so many different kinds of soils. It has a wide range of parent materials (more than 30 different geologic formations), wide ranges in elevations (800 to 9,500 feet) and precipitation (9 to 120 inches). It also has dramatic topographic variations, several different sets of soil transported by ice, water, or wind, and a great variation in time during which soil formations have occurred.

The goal of soil monitoring is to assure the Forest is implementing management practices which maintain or enhance the productive properties of the soil resource.

Approximately 290 acres were monitored in timber harvest and slash disposal areas on the Lake Wenatchee, Leavenworth, and Entiat Ranger Districts.

A general soils inventory has been completed for the entire forest. In addition, a more intensive survey has been completed for the Cashmere Valley area. Another has been started for the Naches Ranger District and will be completed in four years. This type of resource inventory will be the basis of better resource management decisions and result in fewer impacts on watersheds.

2. WATER

The Wenatchee National Forest is an extremely important source of high quality water for all uses. The water produced on the Forest maintains components of the natural ecosystem, including vegetation, fish, and wildlife. Water also serves the administrative needs of the Forest Service and is used both on and off Forest for domestic, municipal and industrial purposes, stock watering, irrigation, power generation, and recreation. There are an estimated 3,600 miles of perennial streams on the Forest, with 806 miles of Class I streams and 963 miles of Class II streams. The Forest contains hundreds of small lakes, ponds, and springs that receive a variety of uses. There are an estimated 57,000 acres of lakes and reservoirs on the Forest.

The Forest Plan water monitoring goal is to maintain watershed condition to ensure meeting or exceeding water quality standards established by the State of Washington.

Water temperature monitoring was accomplished in 1990 through the establishment of 10 thermograph stations. Six thermograph monitoring stations were in operation on the Naches Ranger District and two on the Cle Elum Ranger District. In addition maximum/minimum thermometers were placed on approximately 70 streams across the Forest. The purpose of this monitoring is to identify potential fish habitat by measuring critical maximum daily temperatures, and to identify any changes in temperature ranges caused by land management activities.

Streambed core sampling was accomplished on 10 core sampling sites in coordination with the Yakima Indian Nation. Core sampling was completed at seven sites on the Little Naches drainage. It was completed in cooperation with the Washington Department of Fisheries, the Washington Department of Wildlife, and the Yakima Indian Nation at 18 sites on the Cle Elum Ranger.

Baseline macroinvertebrate information was collected on three streams on the Cle Elum Ranger District.

High Lakes surveys focusing on recreation use, riparian habitat, and fish growth were completed in cooperation with the Washington Department of Wildlife on the Chelan Ranger District.

In addition, monitoring is being conducted to determine the effectiveness of stream habitat improvement work in the Holden Mine Rehabilitation Project. Effectiveness monitoring also was conducted for the Mission Creek Project on the Leavenworth Ranger District.

In order to monitor the cumulative effects of forest management activities on watershed condition and fish habitat, the Forest is in the process of developing an appropriate cumulative effects process to monitor subdrainages. Jenette Smith, a graduate student at the University of Washington's Center for Streamside Studies, is conducting her master's research testing a cumulative effects methodology on the Forest with assistance from Forest personnel.

3. FISH HABITAT AND MANAGEMENT INDICATOR SPECIES

Fish and other aquatic resources on the Wenatchee National Forest are major recreational and aesthetic assets. Commercial and sport fisheries depend upon the Forest ecosystem for spawning and rearing habitat, as well as a quality source of fresh water for downstream fisheries. The Forest contains about 241 lakes and reservoirs and 1,769 miles of streams and rivers that support fish. Approximately 806 miles of streams and one large lake, Lake Wenatchee, are available to anadromous fish. The majority of the recreational fishing on the Forest is focused on resident trout. The continuation of this use is a major objective. There are 11 species of cold water resident fish and three species of warm water resident fish found on the Forest. There are

four species of anadromous fish, including steelhead trout and chinook, sockeye, and coho salmon that utilize the Forest for spawning and rearing.

A total of 53 anadromous fish habitat structures and 25 inland fish habitat structures have been built. A detailed riparian inventory has been completed on about 200 miles of stream channel each year for the past two years.

The Forest goals for fisheries management are to provide riparian habitat as specified in the Forest-wide Standards and Guidelines to meet water quality, fish and wildlife habitat objectives, and to maintain or enhance fish habitat capability to at least retain existing capability.

Bull trout redd surveys were completed by the Washington Department of Wildlife on 18 index streams. These are the Bumping River, Rattlesnake Creek, South Fork Tieton and the North Fork Tieton Rivers, Clear Creek, Mad River, Chikamin Creek, Chiwawa River, Buck Creek, Alpine Creek, Phelps Creek, Rock Creek, Panther Creek, Box Creek, Canyon Creek, Cold Creek, Indian Creek, and Deep Creek. This information is reported in the March, 1991 Bull Trout Species Management Guide completed in cooperation with the Washington Department of Wildlife.

Riparian protection zones were monitored as part of the Forest-Wide Standards and Guidelines. Standards and guidelines appeared to be considered in planning for activities within these zones. However, none of the activities had been implemented so effectiveness of the planning could not be monitored. Some of

the activities monitored this year for implementation will be monitored in the next few years to further test the effectiveness of the standards and guidelines.

K. RANGE MANAGEMENT AND RELATED ACTIVITIES

The vegetative types within the Forest environment have evolved through the natural interactions of grazing animals and wildfire occurrence. Fire removed or thinned trees while large grazing animals used and modified the resulting forage resource. This interaction has provided wide diversity of vegetation and wildlife. Grazing of vegetation by large wildlife species such as elk modified the forage. It also retained some vegetative types in successional stages beneficial for use by deer, mountain sheep, and many small game and non-game species. The management of rangelands on the Wenatchee National Forest involves the use of livestock as a tool to manage the vegetation. When the management of range vegetation is approached in this manner, there is a substantial opportunity to use livestock grazing to enhance other resource objectives. Approximately ten percent of the National Forest lands on the Wenatchee are now used for livestock grazing. This livestock includes cattle, sheep, and horses, and inventoried recreation livestock allotments. The Forest Plan does not propose an increase in the land area allocated to livestock use.

During 1991 a Range Activity Review was completed. The intent of the review was to determine how well the Range Program was being managed. Three Allotments were selected to be reviewed. On-site inspection of field conditions and office reviews of grazing files were completed. The Three allotments inspected were: Union Valley (Chelan District), Table Mountain (Cle Elum District), and Soup Creek (Naches District). As a result of this activity review, the Forest Supervisor requested the Rangers develop a strategic plan to deal with six action items. The action items included developing a strategy to deal with: unauthorized grazing use, noncompliance with permit terms, exceeding Forest Plan Standards and Guidelines, allotment management planning, undesirable resource conflict impacts, and term permits/vacant allotments.

Some of the range management actions taken this past year included resting the MacFarland and Round Mountain Allotments from livestock use for resource reasons, and reducing the permitted livestock in the Union Valley Allotment for resource reasons. In addition a vegetation exclosure was reconstructed on the Soup Creek Allotment.

Resting the MacFarland Allotment will help facilitate the Watershed Improvements scheduled in the Mitchell Creek drainage in 1992. The MacFarland Allotment in the Mitchell Creek area will be rested for approximately four seasons. This action will help the restoration efforts become well established. Reducing the permitted livestock use in the Union Valley Allotment is the first step in improving the site conditions within the allotment. The Union Valley Allotment has been identified as needing improvements to range condition.

Eradication of the noxious weed Common Crupina in the Mountain allotment was initiated in 1990 on the Chelan Ranger District. In order to facilitate the recovery of this range, the Round Mountain allotment will be rested for two years.

The livestock exclosure on the Soup Creek Allotment is a bench mark to monitor the effects of grazing verses no grazing. There are indications that elk grazing alone on some meadows is exceeding utilization standards contained in the Forest Plan. Maintaining this exclosure will enable the Forest to evaluate this possibility.

Less intensive practices undertaken included more active use of sheep grazing. Sheep have been used to control competing vegetation on specific sites needing to be reforested after recent timber harvest and in young plantations.

In 1991, the Forest had 182,137 acres of suitable range. According to 1990 Forest Plan figures there was 182,742 acres of suitable range on the Forest. This means a reduction of 605 acres. This loss of suitable range was due, in part, to reforested trees replacing grasses in transitory (temporary) range areas. Smaller timber harvests will result in further reductions in the transitory range areas. Furthermore, the control of wildfires is gradually allowing trees to invade meadow areas.

Goals for range management include: (1) managing the range resource to maintain and improve vegetative conditions while making full utilization of forage allocated to livestock; (2) providing opportunities to enhance other resource values through the use of livestock to

shape desired plant communities; (3) improving forage condition with an upward trend in ground cover and species composition, contributing to the protection and enhancement of soils, watershed, and wildlife forage; and (4) maintaining all structural improvements at, or as near as possible to, the standard to which they were constructed.

Livestock numbers during 1988 (Forest Plan Levels) compared to actual 1991 figures are listed below:

	1988	1991 (Actual Use)
Cattle	1984	1122 (does not include 300 head from rested MacFarland Allotment)
Sheep	8607	7572 (does not include 1200 head from Buttermilk Allotment which is administered by the Okanogan National Forest)
Horse	84	24 (does not include 20 head from rested Round Mountain Allotment)

The biggest reduction is in cattle grazing. Much of the reduction occurred because of permittee non-use for personal convenience and reductions required by the Forest Service to improve range conditions.

Grazing Utilization Monitoring occurred on 7 allotments: Union Valley, Antione Creek, Table Mountain, Soup Creek, Tieton, and the Rattlesnake Allotment. Utilization levels are listed below for the allotments listed:

Allotment	Utilization %	Comments
Union Valley	> 50	taken on 3 transects
Antione	25-35	taken on 6 transects
Table Mnt.	23-65	high elevation pastures average 23% use, while lower pastures average 65%
Tieton	57	12 sites monitored. Meadow areas typically receive heavy use areas by elk and domestic livestock
Soup Cr.	45	most transitory range averages 45% use but some meadows approach 60% use.
Rattlesnake grazing	51	16% use prior to sheep
Naches	52	3 sites monitored

These figures represent averages. There are indications that some areas are exceeding utilization standards contained in the Forest Plan. According to Forest Plan Standards, utilization should range from 30 to 50 percent (under certain conditions). Those areas exceeding Forest Plan Standards are being identified and continued monitoring will determine if grazing levels should be adjusted.

L. ROAD MANAGEMENT

Early in the 20th century, railroad logging began on the Wenatchee National Forest. The railroad replaced animal and water transport of logs in the Teanaway, the Swauk, and the Wenatchee drainages. Log trucks began to compete with railroads in the 1920's and by 1944 railroad logging had ended. Since the 1940's, the majority of Forest road construction has been in support of timber management activities. Through the 1950's and 1960's the primary road systems were improved and extended in response to the demands of an increasingly mobile public. The National Forest Management Act of 1976, states that: "roads constructed on National Forest System Lands shall be designed to standards appropriate for their intended uses, considering safety, cost of transportation, and impacts on land and resources".

The Forest goal for road management is to plan, design, operate, and maintain a safe, economical transportation system which provides efficient access for the movement of people and materials involved in the use and protection of National Forest lands.

Interdisciplinary field reviews of road projects were conducted as part of the monitoring of the Forest-wide standards and guidelines.

There were 2.8 miles of arterial and collector road construction and reconstruction this past year. The Teanaway construction project was delayed because of lack of funding.

There were 30 miles of timber purchaser roads constructed compared to a target of 85.9 miles. The attainment target in timber purchaser road construction was not met because of the decision not to sell timber sales in Northern Spotted Owl Habitat. Detailed reports are due after five years of monitoring.

M. FOREST FIRE PROTECTION

During the past year fire management continued to be a significant portion of the work load of Wenatchee National Forest personnel. Each District and the Supervisor's Office were involved in Fire Prevention, Detection, and Suppression programs as we continued to work towards the implementation of the Forest Plan.

One major change in the Fire Prevention Program was the initiation of an effort, in conjunction with the Washington State Department of Natural Resources, to coordinate public use restrictions and regulations. This effort included the continued mutual use of the Industrial Fire Precaution System. This is expected to improve the uniformity of regulations and is intended to simplify the system for the public.

The detection of fires did not change significantly during the past year. Three lookout towers were still staffed full-time during the summer season and others were staffed during periods of high fire danger or when lightning was expected. The use of aircraft to detect fires after lightning storms continued to be an effective practice. Infrared and other

heat-sensing technology, in coordination with satellite-assisted global positioning technology will be integrated into the fire detection program in the near future.

Fire suppression is a major portion of the workload on the Wenatchee National Forest every summer. However, the 1991 summer turned out to be rather quiet compared to recent years. Still, it kept fire crews busy until the latter part of October. The first significant fire activity of the season did not occur until July 9th, 1991, when an escaped campfire burned about 70 acres in the Twentyfive Mile Creek drainage on the Chelan Ranger District. Later that same day, a thunderstorm started several more fires in the same general area, requiring the mobilization of the area overhead team.

Last fire season, most of the lightning storms were accompanied by just enough moisture to keep the fires from spreading rapidly. A total of 93 lightning-caused fires occurred, but burned only 96 acres. During the same period, 76 fires were attributed to human activities and burned 956 acres.

The largest fire of the season was the Grade Creek Fire on the Chelan Ranger District which started on the evening of October 3rd. It required the mobilization of the area overhead team and was not declared controlled until October 8, 1991, after having burned 840 acres.

Fire suppression personnel and equipment were busy throughout the summer assisting neighboring Forests and other agencies. Personnel responded to 62 fires on adjacent

jurisdictions. The largest fire in the local area was the Chelan Butte Fire that started on September 1, 1991, and burned approximately 2,500 acres.

The Forest continued to host several fire suppression resources intended for use nationwide: an Interagency Hotshot Firefighter Crew based at the Entiat Ranger District, a 15-member rappel/helicopter crew, and two air tankers at the Wenatchee Tanker Base located at Pangborn Field. A large cache of fire suppression equipment is also housed at the Pangborn facility and was used extensively during the October fires in the Spokane area.

PRESCRIBED FIRE USE

The use of fire as a tool to manage unwanted vegetation and woody debris, and to prepare areas for the planting of new trees, continued to be a significant portion of the work of Forest personnel. In fiscal year 1991, just under 4,700 acres were burned in 190 separate units. A majority of this activity is now occurring in the spring with the remainder being completed after fall rains decrease the summer/fall fire danger.

Additional use of fire to improve wildlife habitat and range conditions occurred in several areas on the Forest.

The Wenatchee National Forest is the lead agency in updating the prescribed natural fire plan for the Alpine Lakes Wilderness. It is anticipated that the work will be completed during 1992.

Information on the use of prescribed fire has been collected in many different categories. This information is on file in the Supervisor's Office and can provide more complete insight into the prescribed fire program on the Forest.

N. AIR RESOURCE MANAGEMENT

The Air Resource Management Program continued to expand during the past year. There were several projects which required considerable effort to complete.

A major effort was undertaken to produce a National Environmental Policy Act (NEPA) document to disclose the alternative approaches to managing firewood on the Naches Ranger District. One of the important elements of this analysis was to review the effects of firewood smoke on both human health and the environment. This work required the involvement of air resource managers from several agencies.

A second area of emphasis was our continued compliance with the Smoke Management System as administered by the Washington State Department of Natural Resources. All Ranger Districts submitted documentation on their planned prescribed burns, followed by requests for approval to burn on a specific day. After the completion of each project, information is submitted regarding the results of the burn. This includes the tons of debris consumed, time of ignition, and other pertinent data.

In addition, the Forest continues to work with research scientists from the Forest Service Pacific Northwest Laboratory in Seattle (PNW) on the effects of smoke on human health. This is an ongoing project and Forest personnel will continue to be involved.

Also in conjunction with the PNW lab in Seattle, the Forest has helped with a project attempting to validate the information provided by a computer model on smoke plume characteristics. During this project aircraft have been utilized during burning operations to fly above the burns and track the height and direction of smoke movement.

The Ranger Districts continued with photo documentation of smoke dispersal during prescribed burning activities. This resource has proven useful in providing subjective information on visibility impacts of prescribed burning.

Additional work has occurred this year in completing the definition of Air Quality Related Values and an Air Resource Monitoring Plan for the Alpine Lakes Wilderness. The lead in this project has been taken by the Mt. Baker-Snoqualmie National Forest, in coordination with the Wenatchee National Forest. It is anticipated that this work will be concluded and the results published in 1992.

O. COMMUNITY EFFECTS, RESOURCE BUDGETS, COSTS, AND VALUES.

1. SOCIAL/ECONOMIC

Many residents of the communities adjacent to the Forest derive their livelihood from forest-related activities and many more participate in a wide variety of forest recreation activities. Economic activities affecting local residents include logging, sawmill operations, commercial livestock operation, tourism, and various recreational pursuits. Residents of the area have the opportunity to participate in nearby Forest recreation activities such as camping, hunting, fishing, hiking, and a range of winter sports. The use of the forest by urban residents of the Puget Sound region is very heavy. These recreation opportunities generate demand for recreation-related goods and services.

Since 1991 was only the second year for implementation of the Forest Plan, many statistics are still preliminary. Income and job numbers from Washington State Employment Security Department are generally a year or two behind in reporting. Therefore, for 1991 many numbers will not be available until next year. There have been many potential social and economic effects on Forest Plan implementation, the most notable being the management requirements for the Northern Spotted Owl. These effects will start appearing in 1992.

a) Changes in payments to Counties

The following are payments to counties during Fiscal Year 1991. By law, 25% of the revenues collected by the Forest Service from the use of National Forest system lands and resources are returned to the counties as a source of funds for schools and roads. In Washington State, half the funds (school portion) are redistributed throughout the state, while the road portion remains within the county.

PAYMENTS TO COUNTIES

Chelan County	\$2,155,756.14
Douglas County	2.99
Kittitas County	885,707.05
Yakima County	3,351,123.98
Total	\$6,392,590.16

This compares with payments of \$5,308,471.23 in 1990 and Forest Plan prediction of \$4.3 million (expressed in 1990 dollars).

Most of the receipts are the result of timber sale activities. The final payments were computed under a provision of the Interior and Related Agencies 1991 Appropriations Act. Section 316 of that Act provides for payments to counties for Fiscal Year 1991 of not less than 90% of the three-year average for Fiscal Years 1988 through 1990 for those National Forests affected by decisions on the northern spotted owl. The Wenatchee is one of those forests.

b) Change in local populations

This past year showed a continuation of the significant population growth that started in 1989. Chelan, Douglas, Kittitas Counties showed strong growth, while Yakima showed slower growth. The growth in the three northern counties was due to in-migration, while Yakima County's growth was due to births, according to the Washington State Office of Financial Management.

POPULATION NUMBERS*

County	April 1990	April 1991	%Change
Chelan	52,250	53,200	+1.8%
Douglas	26,205	27,500	+4.9%
Kittitas	26,725	27,400	+2.5%
Yakima	188,823	190,500	+ .9%

County	Local Births minus Deaths	Net Migration
Chelan	402	548
Douglas	158	1,137
Kittitas	85	590
Yakima	1,966	- 289

*From Washington State Office of Financial Management

An indirect measure of population growth is the trend in housing prices. Strong out-migration results in dropping of housing prices, while strong in-migration results in significantly higher housing prices as supply drops and demand increases. The following table shows average housing prices within the Wenatchee National Forest impact area during the first nine months of 1991.

AVERAGE HOUSING PRICES*

	1991 Jan-Feb-Mar	1991 Apr-May-Jun	1991 Jul-Aug-Sep
County			
Chelan/ Douglas	\$79,554	\$82,518	\$89,893
Kittitas	information is not available		
Yakima	\$61,396	\$69,602	\$79,070

*from Yakima and Wenatchee Associations of Realtors

For the first nine months of 1991 housing prices in Yakima increased 28.8% while in Chelan and Douglas Counties prices rose 13.0%. Though data is not available for Kittitas County newspaper accounts appear to show even greater increases in price appreciation.

For Yakima County the different data sources show conflicting trends. The Washington State Office of Financial Management shows net migration from April 1990 to April 1991 of minus 289 persons. The Yakima Association of Realtors data shows a significant increase in home prices in this period.

Data from Chelan and Douglas Counties is available from 1986 forward:

Year	Average Selling Price*	Change from Previous Year*
1986	\$60,542	n/a
1987	\$63,649	+4.75%
1988	\$63,096	- .86%
1989	\$67,085	+6.32%
1990	\$74,987	+11.78%
1991 YTD	\$89,893	+19.88%

*from Wenatchee Association of Realtors

For the last quarter of 1991 it appears that average selling price will top \$95,000 for Chelan and Douglas Counties. The data shows that housing prices and therefore in-migration started in 1989 and has continued to escalate higher.

The residents of this area rely on the commodity and amenity resources of the Wenatchee National Forest to provide employment opportunities in industries such as timber, ranching, and tourism. During this period, commodity and amenity outputs have remained fairly stable from National Forest lands. There has been no significant influx of industries to north-central Washington. The growth in population is therefore being driven by forces outside north-central Washington. Much of the growth is the result of people becoming disenchanted with the urban areas of the Puget Sound and California and moving for

quality of life reasons to north-central Washington. Please see section on lifestyles, attitudes, beliefs, or values for further information on this migration.

c) Change in local employment patterns:

The employment security reports for employment and wage trends are published on a one-year delay. The number for 1991 will be available in the fall of 1992. The numbers for 1990 are shown.

The Wenatchee National Forest impact area includes Yakima, Kittitas, Chelan, and Douglas County.

	1990 Employment	Covered 89-90 % Change	Average 1990 Wages	89-90 % Change in real wages
Wenatchee Impact Area (Total)	129,944	+10.77%	\$15,442	-3.93%
Manufacturing Lumber & Wood Products	1,896	-0.99%	\$22,516	-3.67%
Paper & Allied Products	867	+35.11%	\$29,926	-5.83%
Retail Trade Eating & Drinking Places	7,419	+3.68%	\$6,629	+3.08%
Services Hotels & other Lodging Places	1,936	-1.33%	\$7,973	+3.44%
Amusement & Recreation Services	1,884	+17.02%	\$7,296	-10.23%

The above sectors of the economy are directly affected by Forest Service activities.

Individual County Trends for the following sectors show the following changes:

TOTAL EMPLOYMENT AND WAGES BY COUNTY

	1990 Covered Employment	89-90 % Change	Average 1990 Wages	89-90 % Change in real wages
Chelan County	29,757	+12.52%	\$16,231	-6.55%
Douglas County	8,334	+21.22%	\$12,789	-8.90%
Kittitas County	9,147	+6.62%	\$16,112	-3.80%
Yakima County	82,706	+9.68%	\$15,401	-2.30%

MANUFACTURING - LUMBER AND WOOD PRODUCTS

	1990 Covered Employment	89-90 % Change	Average 1990 Wages	89-90 % Change in real wages
Chelan County	236	-35.16%	\$19,513	-2.70%
Douglas County	n/a	n/a	n/a	n/a
Kittitas County	170	-11.46%	\$22,594	-4.47%
Yakima County	1,490	+9.64%	\$22,983	-5.13%

MANUFACTURING - PAPER AND ALLIED PRODUCTS

	1990 Covered Employment	89-90 % Change	Average 1990 Wages	89-90 % Change in real wages
Chelan County	n/a	n/a	n/a	n/a
Douglas County	n/a	n/a	n/a	n/a
Kittitas County	n/a	n/a	n/a	n/a
Yakima County	862	+35.11	\$22,983	-5.13%

RETAIL TRADE - EATING AND DRINKING PLACES

	1990 Covered Employment	89-90 % Change	Average 1990 Wages	89-90 % Change in real wages
Chelan County	1,786	+2.41%	\$6,745	+4.14%
Douglas County	490	+11.36%	\$5,935	+4.65%
Kittitas County	1,104	+12.54%	\$7,078	+5.00%
Yakima County	4,039	+1.20%	\$6,540	+1.88%

SERVICES - HOTELS AND OTHER LODGING PLACES

	1990 Covered Employment	89-90 % Change	Average 1990 Wages	89-90 % Change in real wages
Chelan County	872	+4.93%	\$8,112	+1.58%
Douglas County	n/a	n/a	n/a	n/a
Kittitas County	218	+2.35%	\$6,468	+5.53%
Yakima County	846	-7.84%	\$8,219	+5.05%

SERVICES - AMUSEMENT AND RECREATION SERVICES

	1989 Covered Employment	86-89 % Change	Average 1989 Wages (1990 Base)	86-89 % Change in real dollars
Chelan County	452	+22.83%	\$8,507	-13.96%
Douglas County	80	-10.11%	\$9,700	-0.68%
Kittitas County	516	+15.96%	\$5,010	-22.21%
Yakima County	836	+18.08%	\$7,823	-3.03%

These numbers need to be carefully interpreted. They represent total employees and their wages. Retail trade and service industries utilize many part-time workers, thereby bringing down average wage scales. In good economic times these workers tend to work more hours thereby increasing their average wage. In times of recession they tend to work less hours. 1990 was generally one of good economic expansion in eastern Washington.

The following table shows trends in employment and income by major economic sectors between 1989 and 1990.

1990 was a period of substantial job growth within eastern Washington and Wenatchee National Forest economic impact area. These trends continued in 1991 though final numbers are not yet available. As noted earlier, the Forest Service programs remained stable during 1990. The job growth was fueled by a strong rebound in the agricultural sector and increases in manufacturing and service employment.

	1990 Total Employment	89-90 % Change	Average 1990 Wages	89-90 % Change in Real Income
Impact Area (Yakima, Kittitas, Chelan & Douglas Counties)	129,944	+10.77	\$15,442	-3.93
Agriculture, Forestry, & Fish	31,515	+38.30	\$8,490	-11.66
Mining	275	-1.79	\$35,778	+1.86
Construction	3,828	-1.67	\$19,975	-3.66
Manufacturing	13,224	+5.18	\$22,147	-1.42
Transportation	4,498	+3.45	\$21,355	-1.50
Wholesale Trade	9,748	+2.11	\$17,102	-0.51
Retail Trade	20,790	+3.31	\$10,999	+1.19
Finance, Insurance	3,336	+2.77	\$19,500	+2.33
Services	22,282	+6.82	\$14,935	+2.65
Government	20,228	+4.06	\$23,263	+0.24

d) Changes in lifestyles, attitudes, beliefs or values

The influx of people from Puget Sound is shifting local lifestyles, attitudes, and beliefs toward an urban value system. New migrants to the area are oriented toward Seattle and western Washington rather than Spokane and eastern Washington. The influx has caused reactions from local residents as they attempt to deal with changes in values. For example, traditional orchard activities have been affected as ex-urban residents are less accepting of the noise, and other activities associated with farming. This has led to Chelan County passing a right to farm ordinance. Conflicts between new residents and rural lifestyles will continue to escalate as the population grows.

The migration of people into north-central Washington can be characterized as being composed of Returnee's, Retirees, and Urban Transplants. Returnee's are individuals born and raised in the local area who are moving back to the area after living in an urban area. Retiree's are primarily urban residents who are retiring to this area. Urban transplants are primarily families who have become disenchanted with urban life and are moving to eastern Washington for the quality of life.

Returnee's are generally middle-aged with young children who are moving back to the area where they were raised. The primary reason they come back is to offer their children the same high quality of life that they had while growing up. Returnee's have a very positive effect on local social and eco-

nomic trends. They are generally well educated with substantial job skills and are very committed to the communities to which they move.

Retiree's are moving into the area primarily from the Puget Sound area and California. They are drawn by quality of life amenities and particularly, in the case of Puget Sound residents, the warmer and drier climate of north-central Washington. Their primary economic impact is on the retail trade and service sectors. Retiree's generally have a stable, outside source of income, thereby insulating local economies from outside economic trends. Some communities that have been magnets for retirees in the past have found that this group, because of fixed incomes and few emotional ties to their new communities, oppose spending for social services such as schools that they do not use. The Washington State Office of Financial Management expects strong retiree migration to Chelan and Douglas counties to continue far into the foreseeable future.

Urban transplants are generally middle-class and middle-aged families that are "escaping" urban life to live in rural areas. Their primary motivation is to escape urban crime, noise, and traffic. Many of these individuals are selling their houses in urban areas and using the proceeds to live in rural areas while looking for employment. The influx of this group should lessen as home prices in eastern Washington approach those in the Puget Sound. A study by Montana State University showed that in Montana only ten percent of these individuals remained after ten years. Lack of employment opportunities and problems adapting to rural lifestyles leads to most

of these individuals moving back to the cities. Since the urban transplants moving to eastern Washington are closer to their support systems in the Puget Sound it is likely that more than ten percent will remain here. There are also indications that firms in western Washington are much more interested in moving to eastern Washington than in the past. Their reasons for moving center on the same quality of life opportunities that are motivating current migrants.

The Forest Service would like to thank the "Wenatchee World" for its reporting on social and economic trends in central Washington. Many trends shown here were first reported in the "Wenatchee World."

One of the quality of life issues is crime. The Wenatchee National Forest employs three full-time employees investigating theft of government property, arson, marijuana cultivation, and fraud against the government. In addition, the Forest Service provides \$200,000 to County Sheriffs in Chelan, Kittitas, and Yakima Counties. The County Sheriffs handle major state felonies and other state crimes occurring on National Forest lands. Their crime data is assembled county-wide and figures specifically for National Forest lands are unavailable. The Notices of Violation (NOV's) issued by the Forest Service, however, give an indication of trends.

NOTICES OF VIOLATIONS

Residence Of Violator	1989		1990		1991	
	#NOV's	%	#NOV's	%	#NOV's	%
Western WA	26	40.6%	16	34.8%	48	54.0%
Wenatchee, Yakima	32	50.0%	25	54.3%	38	42.7%
Other East WA	2	3.1%	0	0%	1	1.1%
Out of State	4	6.3%	5	10.9%	2	2.2%
Total	64	100%	46	100%	89	100%

1991 showed a significant increase over 1990 in law enforcement activity. This trend will need to be closely monitored in future reports to see if it continues. This data includes only minor criminal offenses (petty offenses). Major federal criminal violations are not included. The number of these incidents are few, however the financial impact is much greater.

e. Changes in Forest contribution to Forest products industry

The following table shows Forest Service harvest volume and volume sold.

In Million Board Feet

Fiscal	Volume Harvested	Volume Sold
87	221	160
88	186	154
89	197	76
90	173	225
91	136	20

The above data is for Chelan, Kittitas, and Yakima Counties. There is a new small log mill opening in Winton, within Chelan County. The volume sold in 1990 reflects the requirements of Section 318 of the Federal Budget Act. The significant drop in volume sold in 1991 is the result of the recent court and agency decisions on management of the northern spotted owl.

2. COSTS AND VALUES

Costs and values associated with Plan implementation are to be monitored by assessing the ability of Forest managers to provide funding levels necessary to achieve outputs called for by the Forest Plan. Monitoring must also consider their ability to implement the Plan in a cost efficient manner.

The first monitoring question is whether major costs used in the Forest Plan analysis are consistent with actual implementation costs. The Year End Report for Program Managers will be used to compare actual and predicted costs after the first full year of implementation, and should be available by late spring of 1992.

The second monitoring question is whether values for forest resources are consistent with those used in Forest Plan analysis. These values will be developed in conjunction with the Year End Report for Program Managers.

3. RESOURCE BUDGETS

The purpose of this monitoring is to track funding levels necessary to achieve outputs in the Forest Plan. The monitoring question is to verify whether budgets received are adequate for achieving the objectives described and projected in the Forest Plan. The Year End Report will be used to compare the actual and predicted budgets and outputs.

P. GENERAL MONITORING OF STANDARDS AND GUIDELINES

It is expected that all standards and guidelines and management area prescriptions contained in the Forest Plan will be followed for on-the-ground projects and activities. To ensure that standards and guidelines have been implemented as intended, a variety of site-specific projects were reviewed during the summer of 1991. An interdisciplinary team, consisting of the Forest Supervisor, Deputy Forest Supervisor, Forest Group Leaders, and others with specific expertise conducted the following reviews:

Ranger District	Projects Reviewed
Chelan	Grade Hilo Timber Sale (design stage)
Cle Elum	Salmon La Sac Flood Rehabilitation (Implementation)
	Bowers Timber Sale (Implementation)
Entiat	Ridge Salvage Timber Sale and Cougar Ridge Timber Sale (Implementation)
Lake Wenatchee	Chiwawa River Flood Rehabilitation (Implementation)
	Nason Creek Fish Habitat (Design)
	Maverick Timber Sale (Implementation)
Leavenworth	Diamond Timber Sale (Implementation)
Naches	Controlled Prescribed Burn (Implementation)
	Buttermilk Timber Sale (design stage)
	Boulder Cave Access (design stage)
	Townsend's Big Eared Bat Habitat (design stage)

These reviews revealed that the Ranger Districts are doing a good job of implementing the Forest Plan standards and guidelines in project design. Most environmental documents which have been written for timber sales are increasing in quality. However, environmental documents for projects dealing with activities not related to timber sales need to be improved. It was noted that decision notices for some of these projects do not contain some of the required findings or the latest administrative review language. In addition, more detailed documentation of analysis conducted as part of the project planning process is necessary.

Specific areas requiring more attention include the following:

- a. development of subbasin riparian management objectives;
- b. noxious weed evaluations;
- c. development of Best Management Practices to meet site-specific conditions for mitigation of effects;
- d. inclusion of connected actions such as roads, reforestation, and timber stand improvement in the document;
- e. and, the ability to achieve predicted Forest Plan outputs when site specific issues require Plan standards to be exceeded or planned schedules to be delayed.

In addition to the preceding points, there were specific action items identified as a result of the monitoring trips. These action items are summarized as follows:

Environmental analysis

To improve specialist input into Environmental Documents provide for two training sessions in 1992 on Forest Plan Implementation and the National Environmental Policy Act.

To help Interdisciplinary Teams deal with Economic analysis in Environmental Assessments, develop and offer a training session in 1992.

Soils

Due to the concern for the complex nature of monitoring soil compaction and disturbance, there is a need to validate this year's preliminary results using more intensive sampling methods.

Road Management

Best Management Practices dealing with roads need to be selected and/or designed based on site-specific conditions during environmental analysis. A list of the Best Management Practices need to be included in the mitigation section of the Environmental Assessment or as a minimum in the analysis file.

There is a need to validate the road service levels in the Forest Plan and to provide for activity scheduling of construction or reconstruction needs. Finalizing and implementation of the proposed access and travel management process will probably satisfy this need.

Vegetation management

Develop techniques for revegetation of roads which consider the seed mixtures to meet erosion control, noxious weed control, and visual quality objectives.

Develop a system for tracking and storing "suitable forest land" information into the Geographic Information System.

Public Information

There is a need to involve interested publics in the monitoring process by inviting them to participate in monitoring field trips.

FOREST PLANNING UPDATE

FOREST HEALTH

Forest health has emerged as a major issue concerning Forest Managers region-wide. National Forest Plans and management strategies of other land ownerships assume a state of forest health that allows desired outcomes to be achieved. Catastrophic events such as insect or disease epidemics and large wildfires have the potential to cause changes in the natural environment. Large portions of the forests of eastern Washington are presently in a state of declining health.

Forested areas in a state of declining health need a wellness program that allows desired outcomes to be achieved and steady progress toward desired future condition. This Forest will institute a wellness program in project plans and create new projects for forest health

such as direct suppression of insects as an interim measure, and changing vegetative structure mechanically or with prescribed fire to achieve ecosystem resiliency.

Our first objective will be to achieve a state of forest health that complements the desired future condition described for the various management areas in our Forest Plan. In areas where desired future conditions can not be achieved because of forest health condition or large wildfire risks, plan adjustments may be considered through the planning process.

PLAN APPEALS

The ninety day filing period for appeals to the Forest Plan ended June 1, 1990. Twenty appeals were received including three from individuals, two from Forest Industry, four from off-road vehicle groups, four from established environmental groups, and two from Indian interests. In addition, there were several appeals that focused on very specific issues such as protection of scenery or specific Standard and Guideline wording. Decisions have been rendered on 18 of 20 appeals: John Swanson, Simon Martinez, Pyramid Mountain Hunters, Northwest Motorcycle Association, Back Country Horsemen of Washington, Eastern Washington Dirt Riders, Blue Ribbon Coalition, Lyle Purdy, Central Washington Conservation Coalition, Chelan Conservation Community, Sierra Club et. al., Save Chelan Alliance, Alpine Lakes Protective Society, Wenatchee Timber Purchasers, Northwest Forest Resource Council, American Rivers, Upper Merry Canyon Community Association, and Washington Cattlemen's Association.

The appeals covered a wide array of issues including: community stability, recreation, trails, roadless area management, wild and scenic rivers, treaty rights, scenery, Wilderness management, wildlife, fisheries, harvest level, harvest methods, old growth, cumulative effects, soil, water, riparian, range, socio-economic matters, and planning process.

The Chief of the Forest Service has not issued decisions yet on the Yakima Indian Nation or Columbia River Inter-Tribal Fish Commission appeals. The Forest Service has been working with the Columbia River Inter-tribal Fish Commission in attempting to reach a satisfac-

tory settlement agreement on Forest Plan appeals addressing anadromous fish concerns. On March 10 of this year, a meeting was held between representatives of the Yakima Indian Nation and three National Forests in Washington State, including the Wenatchee National Forest, with the goal of working with the Yakima Indian Nation to reach a settlement agreements on the Yakima Nation's three Forest Plan appeals. Additional meetings with the Yakima Nation's Tribal Council are scheduled in April.

PLAN LITIGATIONS

There were two litigations filed by interest groups involving the implementation of the Wenatchee Forest Plan.

Northwest Motorcycle Association filed a suit challenging the rationale for closing motorcycle trails on the forest through allocations in the Forest Plan and alleges violation of the Washington Wilderness Act. The hearing on this litigation is scheduled for June of this year.

A coalition of eight environmental organizations filed a suit challenging the adequacy of the Chief of the Forest Service decisions on the merits of Forest Plan appeals involving the Wenatchee, Okanogan, and the Mt. Baker-Snoqualmie National Forest. This litigation was filed in March of this year and no hearing date has been scheduled at this time.

PLAN AMENDMENTS

The first Amendment to the Forest Plan (Amendment #1) was made by the Secretary of Agriculture by notice in the Federal Register on October 3, 1990. The notice vacated the 1988 Record of Decision for the Supplement to the Pacific Northwest Regional Guide, and amended all final forest plans to return the Spotted Owl Habitat Areas (SOHAs) to the land classification of adjacent lands.

The second amendment to the Forest Plan (Amendment #2) occurred with the signing of the Record of Decision for the FEIS on Management of the Northern Spotted Owl in the National Forests on March 3, 1992. This Record of Decision (ROD) directed each National Forest to insure that all management activities are consistent with the management directions adopted by the ROD.

The ROD also directed each National Forest to analyze its management situation and capabilities and to determine whether the requirements of the spotted owl management plan will require adjustments to be addressed through a Forest Plan amendment or revision. A plan adjustment will be completed after the adoption of the U.S. Fish and Wildlife Service's Final Recovery Plan for the Northern Spotted Owl.

In addition, based on an analysis of the objectives, standards, and other contents of the Forest Plan, the Forest Supervisor may make Plan amendments. Several amendments are pending or anticipated.

Amendments which are pending in 1992 include:

- Corrections of editing errors which were discovered after the Plan was released to the public.
- Amendment of the activity schedules for fiscal year 1992.
- Change in the wording of a Wilderness Standard and Guideline in response to a Forest Plan appeal from the Backcountry Horsemen.
- An additional Forest-Wide Standard and Guideline dealing with conifer invasion into natural meadows.

CLOSING COMMENTS

Public insight on managing the Wenatchee National Forest through implementation of the Forest Plan is a valuable tool for forest managers. As we proceed with implementation of the Plan and begin amendments to the Plan, we would appreciate knowing your thoughts and concerns.

The attached form is included so you may give us your thoughts. We are interested in your opinion on any current or proposed projects and implementation of the Forest Plan. In addition, we are interested in your comments on pending amendments to the Forest Plan. Work is currently proceeding on amending the 10-year Activity Schedule. We would also like to hear any comments you have regarding this Monitoring Report.

**WENATCHEE NATIONAL FOREST
FOREST PLAN MONITORING REPORT**

R E S P O N S E F O R M

We would appreciate receiving your comments by July 15, 1992.

The following are my thoughts on the Monitoring Report:

The following are my thoughts on current or proposed projects:

My thoughts on pending amendments to the Forest Plan (see page 55):

Use this space for any additional comments:

☐ **Please remove my name from Forest Plan mailing list.
(Check this box and write your name and address below)**

We need to inform you that the Freedom of Information Act (FOIA) and the Privacy Act govern the creation, maintenance, and disclosure of Federal Governmental mailing lists. Under provisions of the FOIA, the names and addresses of persons on these lists will be released upon request, unless the request falls within one of the FOIA Exemptions.

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